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VOL. XIX FEBRUARY, 1928 NO. 5

BULLETIN OF THE UNIVERSITY OF NEW HAMPSHIRE

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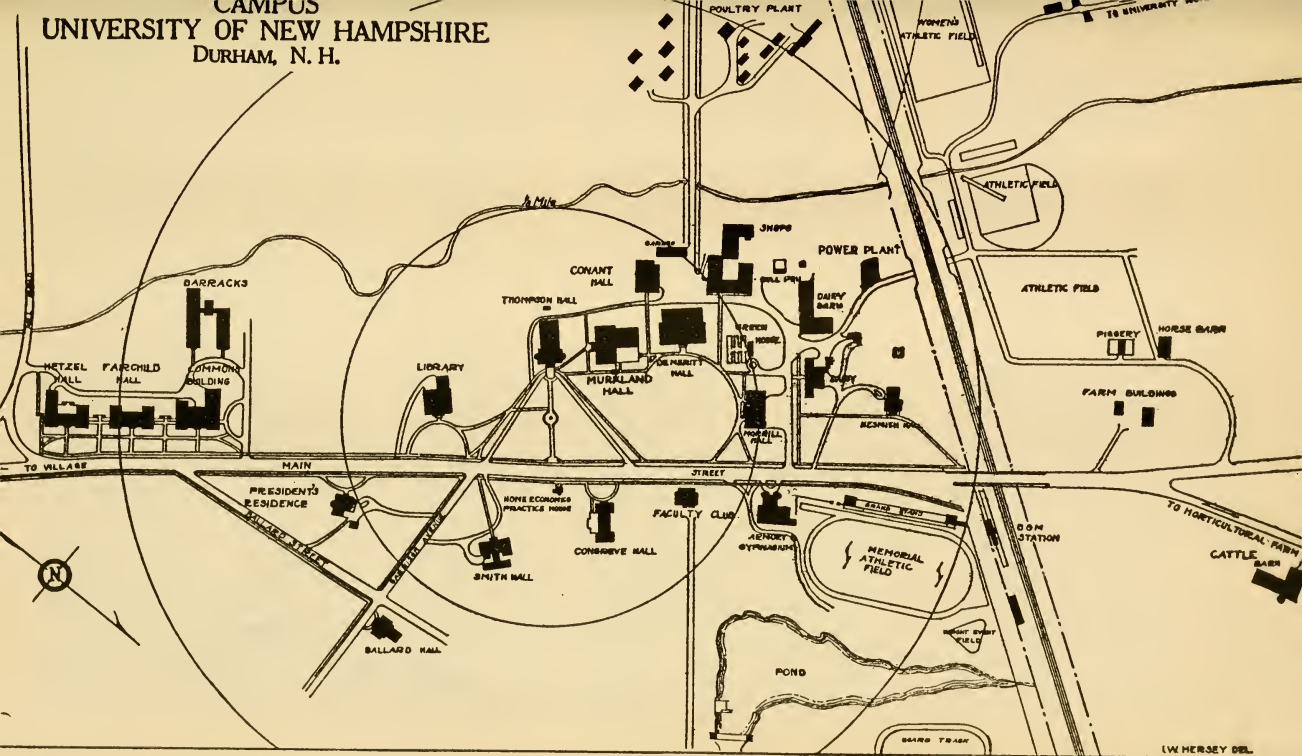
The Catalog of the University
The Report of the President
The Financial Report
The Catalog of the Summer School
The Illustrated Booklet
The Catalog of the Graduate School

and other publications of the University.

CAMPUS
UNIVERSITY OF NEW HAMPSHIRE
DURHAM, N. H.



This map shows the buildings of the University and the immediately adjacent grounds. It does not include the farms, forests, gardens or orchards.

CALENDAR

1928

JULY

S	M	T	W	T	F	S
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AUGUST

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SEPTEMBER

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OCTOBER

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DECEMBER

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1929

JANUARY

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AUGUST

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NOVEMBER

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DECEMBER

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1930

JANUARY

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FEBRUARY

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MARCH

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APRIL

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MAY

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JUNE

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UNIVERSITY CALENDAR

1928–1929

SUMMER SESSION

June 25 Monday	Registration Day
June 26 Tuesday	Classes begin at 8 A.M.
Aug. 3 Friday	Summer Session closes at 4 P.M.

FALL TERM
1928

Sept. 11, Matriculation Day
For Freshman Class Only

Sept. 11 Tuesday	Matriculation Day—Freshman Class
Sept. 17 Monday	Registration Day—all classes
Sept. 18 Tuesday	Recitations begin 8 A.M.
Sept. 19 Wednesday	University Day (afternoon holiday)
Oct. 10 Wednesday	Annual Meeting of Board of Trustees
Nov. 2 Friday	Mid-Term warnings to be filed, 5 P.M.
Nov. 28 Wed.–Nov. 30 Fri.	Thanksgiving recess—Wed., 12.30 P.M. to Fri., 8 A.M.
Dec. 10–15 Mon.–Sat.	Fall Term examinations
Dec. 15 Saturday	Fall Term closes at 12.30 P.M.

WINTER TERM
1929

Jan. 2 Wednesday	Registration Day
Jan. 3 Thursday	Classes begin at 8 A.M.
Jan. 9 Wednesday	Meeting of Board of Trustees
Feb. 6 Wednesday	Mid-Term warnings to be filed, 5 P.M.
Feb. — Fri.–Sat.	Winter Carnival, Fri., 12.30 P.M. to Sat., 12.30 P.M.
Mar. 12 Tuesday	Town Meeting—classes dismissed, 10 A.M.
Mar. 18–22 Mon.–Fri.	Winter Term examinations
Mar. 22 Friday	Winter Term closes at 4 P.M.

SPRING TERM
1929

Apr. 1 Monday	Registration Day
Apr. 2 Tuesday	Recitations begin at 8 A.M.
Apr. 10 Wednesday	Meeting of Board of Trustees
May 7 Tuesday	Mid-Term warnings to be filed, 5 P.M.
May 20–22 Mon.–Wed.	Military Encampment and Inspection

May 30 Thursday	Memorial Day (Holiday)
June 10–14 Mon.–Fri.	Spring Term examinations
June 12 Wednesday	Senior examinations close at 4 P.M.
June 16 Saturday	Class Day—Alumni Day—Meeting of Board of Trustees
June 17 Sunday	Baccalaureate Day
June 18 Monday	Commencement Day

BOARD OF TRUSTEES

His Excellency, Governor Huntley N. Spaulding, D.SC., *ex officio*	
President Edward M. Lewis, A.M., LL.D., *ex officio*	
*Hon. Harvey L. Boutwell, S.B., LL.D., *President*	Malden, Mass.
Sept. 1, 1911, to Sept. 1, 1929	
Hon. James A. Tufts, A.M., LL.D., *Secretary*	Exeter
Jan. 10, 1914, to June 14, 1928	
Hon. Dwight Hall, A.B.	Dover
Oct. 29, 1915, to Jan. 26, 1931	
Hon. Roy D. Hunter	Claremont
June 14, 1916, to June 14, 1928	
Hon. Andrew L. Felker	Laconia
July 17, 1917, to July 17, 1929	
Miss Elizabeth C. Sawyer	Dover
July 12, 1925, to July 12, 1928	
*Hon. Albert H. Brown, B.S.	Strafford
Sept. 1, 1925, to Sept. 1, 1928	
Hon. Harry D. Sawyer	North Woodstock
Aug. 30, 1926, to Aug. 30, 1929	
Hon. James A. Wellman	Manchester
Jan. 26, 1928 to Jan. 26, 1931	
Hon. Robert T. Kingsbury	Keene
Jan. 26, 1928 to Jan. 26, 1931	
Hon. John W. Pearson	Concord
Jan. 26, 1928 to Jan. 26, 1931	

* Elected by the Alumni.

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Gladys Tasker, *Assistant Registrar*
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Gratia T. Huggins, *Library Assistant*

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Thomas G. Phillips, ph.d., *Professor of Agricultural and Biological Chemistry*
Donald C. Babcock, s.t.b., a.m., *Professor of History*

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* Arranged in order of seniority of appointment.
† On leave of absence 1927–28.

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* Arranged in order of seniority of appointment.

STUART DUNN, M.S., *Instructor in Botany*
WILLIAM B. NULSEN, B.S., *Instructor in Electrical Engineering*
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ROBERT G. WEBSTER, B.A., *Instructor in English*
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HOMER O. STUART, M.S., *Instructor in Poultry Husbandry*
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ASSISTANTS *

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FRED W. WOOD, SERGEANT, *Assistant in Military Science and Tactics*
FRED H. BROWN, SERGEANT, *Assistant in Military Science and Tactics*
LOWELL R. TUCKER, B.S., *Graduate Assistant in Horticulture*
DOROTHY T. SMITH, B.S., *Graduate Assistant in Zoölogy*
DONALD FREAR, B.S., *Graduate Assistant in Agricultural Chemistry*
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RALPH R. JENKINS, B.S., *Graduate Assistant in Botany*
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WALTER A. CHIPMAN, JR., B.A., *Graduate Assistant in Geology*
ROSWELL H. EVANS, B.S., *Graduate Assistant in Chemistry*
WILLIAM P. WHITE, B.S., *Graduate Assistant in Chemistry*
DENNIS E. RUSK, B.S., *Assistant in Animal Husbandry and Superintendent of Live Stock*
MARGUERITE MURLLESS, *Assistant in Physical Education for Women*
PERCY F. REED, *Assistant in Physical Education for Men*

* Arranged in order of seniority of appointment.

NEW HAMPSHIRE AGRICULTURAL EXPERIMENT STATION

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JOHN C. KENDALL, B.S., *Director*
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WALTER C. O'KANE, M.A., *Entomologist*
ORMOND R. BUTLER, PH.D., *Botanist*
JOHN C. MCNUTT, B.S. (Agr.), *Animal Husbandman*
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M. GALE EASTMAN, M.S., *Associate Agricultural Economist*
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ELMER LANG, *Assistant Poultry Tester*
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BEATRICE M. RICHMOND, *Bookkeeper*
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HELEN M. HILTON, *Stenographer*
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(Agriculture and Home Economics)

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UNIVERSITY OF NEW HAMPSHIRE

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MARGARET SYMES, *Stenographer*
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HISTORICAL SKETCH

The University of New Hampshire was incorporated by an act of the state legislature on May 4, 1923. The new corporation included the old corporation known as the New Hampshire College of Agriculture and the Mechanic Arts and also provided for a College of Technology and a College of Liberal Arts. The act of incorporation took effect on July 1, 1923. Under the provisions of the act of incorporation the trustees of the old corporation, the New Hampshire College of Agriculture and the Mechanic Arts, became the trustees of the University of New Hampshire.

The administration of the University is in charge of a board of thirteen trustees, of which the governor of the state and the president of the University are *ex officio* members. The alumni elect two trustees, and the others are appointed by the governor with the advice and consent of the council.

The original corporation, the New Hampshire College of Agriculture and the Mechanic Arts, was created by an act of the New Hampshire legislature in 1866 and was established at Hanover as a state institution in connection with Dartmouth College. The year 1868 saw the entrance of the first class. Before the college was founded, the state legislature of 1863 had accepted the conditions of an act of the federal Congress of July 2, 1862, entitled, "An act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts."

In 1893 the college was moved from Hanover to Durham. This action followed the death of Benjamin Thompson, a farmer of Durham, who died January 30, 1890, and left to the college, with the exception of a few minor reservations, his entire estate. The legislature accepted this bequest March 5, 1891, and appropriated the necessary money for the first buildings.

Shortly before the state accepted this gift of Mr. Thompson's the legislature further provided for the college by accepting the provisions of an act of Congress known as the Morrill Land Grant Act of 1862. This legislation made available federal appropriations "for instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural and economic science, with special reference to their applications in the industries in life, and to the facilities for such instruction."

Although the college was able to make use of the Thompson land as early as 1893, it was not until 1910 that the income from this endowment of almost $800,000 became available. At present the college has an annual income from the Thompson funds of nearly $32,000. It also receives moneys which are available as the result of the acts of Congress referred to, and a yearly appropriation from the state amounting to one mill on the assessed valuation of the taxable property of the state.

Although engineering instruction had been carried on in a Division of Engineering from the founding of the college, the work became unified and specialized when the College of Technology became one of the administrative units of the University in 1923.

Study of the liberal arts had been offered before the change of nomenclature of the corporation in 1923. The University of New Hampshire included a College of Liberal Arts, intended to care for the students who desired preparation for life in fields other than agriculture and engineering.

A branch of the University, known as the Agricultural Experiment Station, was established by the state August 4, 1887, under the act of Congress in March of that year. Its purpose is to acquire agricultural knowledge and to bring its information to the people of the state. The station is actively engaged in this work not only in Durham but throughout the commonwealth. Members of the faculty of the College of Agriculture serve on the station staff.

In addition to its functions of teaching resident students and conducting research investigations, the University has been developing rapidly during the past few years its function of carrying information and assistance in agriculture and home economics into all parts of the state. Funds appropriated for the University by acts of Congress and the state legislature provide the means for promoting this type of work.

SITUATION

Durham, the home of the University, is an attractive village on the Portland division of the Boston and Maine railroad, sixty-two miles from Boston, fifty-four from Portland, and five from Dover, a city of 15,000 population. Good train service makes the University easily accessible from all parts of the state.

Durham, organized in 1732, is one of the historic towns of New Hampshire. In the early days it was the home of a prosperous ship-building industry. Situated at the head of tidewater on the Oyster River, it served as a distributing center for the interior of the state. During the Revolutionary War it was famous as the home of General John Sullivan. Near his home, in the village, the state has erected a fitting monument to his memory.

FACILITIES FOR INSTRUCTION

BUILDINGS FOR ADMINISTRATION AND INSTRUCTION

Thompson Hall.—Main administration building.

Morrill Hall.—Headquarters of the College of Agriculture.

DeMeritt Hall.—Headquarters of the College of Technology.

Conant Hall.—Chemistry building.

Dairy Building.—Equipped for dairy instruction.

Shops.—Contain equipment essential for engineering instruction.

Nesmith Hall.—Botany, chemistry and experiment station building.

Armory and Gymnasium.—Military science and physical education.

Murkland Hall.—Headquarters of the College of Liberal Arts.

Practice House.—Equipped as a practice house for home economics students.

Hamilton Smith Library.—Made possible by union of funds left by Hamilton Smith of Durham for the erection of a town library building, from the Carnegie Corporation and the State of New Hampshire. The library serves not only the faculty and students of the University but also the residents of the town of Durham, being one of two such libraries in the United States so constituted, and because it is the library of the state university, it serves as far as possible the people of the State of New Hampshire.

It contains, on the main floor, reading rooms, a small children's room, office, workrooms and a delivery room. On the second floor are a reserved book room, historical room and two study rooms. A three-story stack in the rear has accommodations for 50,000 volumes. Two basement rooms contain periodicals and an additional 10,000 volumes.

Farm Buildings.—There are several large, well-equipped farm and other buildings adapted to the needs of the College of Agriculture.

Power Plant.—This building houses the equipment necessary for heating the University buildings.

RESIDENTIAL HALLS

Commons.—University dining hall. Dormitory on third floor for women students.

Fairchild Hall.—Modern building furnishing accommodations for 150 men.

Ballard Hall.—Accommodates 50 women students.

East and West Halls.—Men's dormitories for 230 students.

Hetzel Hall.—Newest dormitory furnishing accommodations for 156 men.

Smith Hall.—Furnishes rooming facilities for 68 women.

Congreve Hall.—Accommodates 100 women students.

See folder on Residential Halls.

EQUIPMENT

Agronomy.—For the teaching of agricultural engineering, this department is provided with drainage levels for laying out drains, plane tables for making farm maps, polar planimeters for measuring plotted areas, a dynamometer and several other pieces of apparatus for studying draft problems. The machinery laboratory contains the original "Daniel Webster plow" and other primitive models. It also contains many of the latest types of farm machinery, including plows, cultivators, harrows, mowers, planters, corn and grain binders, a thresher, a tractor, a manure spreader, various makes of woven wire fences, etc.

For farm crops work it has a very complete collection of dried specimens of the different forage crops, and of the more important varieties of corn, wheat and oats. Seed testing apparatus, grass charts, and other illustrative material form a part of the equipment.

The lecture room is equipped with a combined lantern and reflectoscope, together with a large number of lantern slides.

The soil physics laboratory contains soil bins, a compacting machine, chemical and torsion balances and various kinds of physical apparatus for the study of soils, including that for the determination of specific gravity and for the making of mechanical analyses.

The farm, with its 900 acres of land, has a variety of soils suited for the growth of various farm crops.

Animal Husbandry.—The stock barn is thoroughly equipped with modern appliances. It houses a number of horses of the draft type, including a well-bred Percheron stallion. There are two small herds of beef cattle, milking Shorthorns, and Herefords, and also good individuals of the Devon breed, as well as a flock of pure-bred Shropshire sheep, and a herd of Berkshire hogs.

The modern piggery accommodates a small herd of Berkshires and individuals of the Duroc Jersey and Chester White breeds.

The class room is provided with a stereopticon lantern, and lantern slides are used to show the leading individuals of the different breeds of live stock.

The herd books of the most prominent breeds are used for the purpose of familiarizing the students with the methods of tracing pedigrees and with the practice of breeders' associations.

Architecture.—The department of architecture is well equipped to meet the needs of the subjects offered. The drafting rooms are supplied with tables and lockers, and the free-hand studio with suitable stands and easels. For free-hand drawing there is a good supply of geometric models, and for advanced work in charcoal drawing the nucleus of a good collection of plaster casts exists, consisting of historic ornament, details of plant and animal life and of the human form. For special work in this subject there is available the museum of casts, consisting of examples of antique and modern sculpture. For work in architectural drawing an excellent library of books and periodicals, and blue prints of all classes of buildings, are available for reference and use in the drafting rooms, while a goodly collection of samples of building materials is being added from time to time.

Botany.—The department of botany has the usual laboratory equipment to meet the needs of the courses in general botany, plant physiology and bacteriology. In the advanced courses, owing to the connection of the department with the experiment station, students will find both

the laboratory and green house equipment ample for critical studies in plant diseases and plant nutrition.

Chemistry.—The several chemical laboratories are equipped with most of the forms of apparatus required for its particular work. Besides all necessary glass and porcelain ware, this includes water baths, drying ovens, combustion furnace, muffle and assay furnaces, platinum dishes and crucibles, polariscope, spectroscope, balances, etc.

Dairy Husbandry.—The dairy husbandry laboratories, located in the dairy building, are well equipped for instructional purposes. The equipment includes power churn, power separator, pasteurizers, coolers, ice cream freezers, bottler, compressors and homogenizer. Electric motors furnish power for operating the various machines. In the farm dairy room are farm separators and hand and small power churns. The milk testing and bacteriological laboratories have equipment necessary for testing and milk inspection, and dairy bacteriology.

The University dairy herd is made up of representatives of the Ayrshire, Guernsey, Holstein and Jersey breeds.

Electrical Engineering.—The laboratories for electrical engineering occupy the ground floor of the south end of DeMeritt Hall. The main laboratory is used for testing electrical machinery, and contains a large distribution switchboard on which are mounted instruments, switches, circuit breakers, and plugging devices. These devices are so arranged that by making the proper connections thereto, direct current, and single-phase, two-phase, and three-phase alternating current of different voltages and frequencies, can be supplied to the various panels in the laboratory and to the lecture rooms in the building.

In addition to this main laboratory there are others devoted to photometry, storage batteries, and high potential experiments. The laboratories are provided with an instrument room and a mechanician's room.

The general equipment includes various dynamos and motors for direct and alternating current, transformers, rectifiers, rotary converters, telephone and telegraph instruments, radio communication equipment, an Evans demonstration equipment, arc lamps, storage batteries, and the necessary measuring instruments adapted to the needs of students taking this course.

The lecture rooms of the department are equipped with small panel boards connected directly with the switchboard in the main laboratory, thus making it possible to supplement lectures with demonstrations.

Farm Department.—The College of Agriculture has a large, well-equipped farm. It serves as a laboratory for much of the instruction in agriculture where approved methods and practices may be seen and where many students may gain experience by actually performing the work with their own hands.

The several farms of the University total about 900 acres. Of this area about 85 acres are devoted to the Campus and athletic fields; about 200 acres are used for hay, tillage, orchards and gardens, about 300 acres are forest, wood and brush land; about 300 acres are in pasture, and about 15 acres in ponds.

Forestry.—The department of forestry offers a course of instruction which is intended to provide not only a special training in forestry, but also a broad general training in other lines of agriculture closely related to it. For those who desire to make forestry their life work, every encouragement and assistance will be given. Additional work at some graduate school of forestry is now almost a necessity, owing to the large number of men entering the profession.

Durham is well situated with reference to the study of woodlot forestry. All types of native second-growth forests are found nearby, and the college owns a tract of 60 acres of old-growth timber where exceptional opportunities are given for the study of mature forests. There are other areas where practice will be given in establishing plantations of forest trees by various methods. A nursery for the growing of seedling forest trees has been established.

All the necessary instruments for making forest maps and measurements, together with collections of wood specimens, lantern slides and photographs, are available in connection with this work.

Students in the forestry course go into camp for a period during the summer of their junior year in order to get practical experience in camp life and in the survey, valuation, and management of large tracts of woodland.

Home Economics.—The home economics department is located in two large rooms in Thompson Hall. The food laboratory is furnished with individual desk equipment and cupboards for utensils and supplies. Electricity, gas and oil are used as fuels. (In the Practice House the students have a chance to use a coal and wood range.) The sewing laboratory is equipped with tables, cupboards, and various types of sewing machines.

The Library.—The library, by virtue of an agreement between the

town of Durham and the then New Hampshire College in 1907, contains not only the books belonging to the University but also those of the Durham Library Association, the Durham Public Library and the New Hampshire Agricultural Experiment Station. The collections of the Durham Library Association and the Durham Public Library are increased by income from endowments and by direct appropriation of the town.

The library collections include 60,000 bound volumes and about 40,000 pamphlets. Fifteen hundred periodicals, continuations and proceedings of scientific societies are received currently. The main collections are housed in the Hamilton Smith Library. The volumes of the New Hampshire Agricultural Experiment Station are kept in Morrill Hall. Seventeen department libraries are maintained for the departments of the Colleges of Agriculture and Technology. Periodicals appropriate to the department libraries are sent there.

The library publications include a Students Handbook containing information, directions for the use of the library and library tools, and library regulations; and the *Library Lantern*, a monthly news bulletin about books and libraries. These are for free distribution.

The library attempts to provide all books needed for class-room reading and research save the individual texts adopted for the various courses; to provide recreational reading of a wide and varied character including current, ephemeral and standard material of value; and to add gradually to its collections of the classics, serial sets, research and reference works as funds become available.

Mechanical Engineering Department.—This department is located in DeMeritt Hall. On the second and third floors are the advanced drawing and designing rooms. In addition to these drafting rooms there are two lecture rooms, and department offices. One of the lecture rooms is equipped with motion picture machines and stereopticon lantern and screen, for illustrated lectures.

In the basement are located the mechanical engineering laboratories, in the north end of which is the materials testing laboratory, equipped with the apparatus needed in making analyses of flue gases, for calorimetric determinations of the heat values of solid and liquid fuels, and for conducting the usual tests of cements and mortars. There is also apparatus needed in determining the viscosity and flash points of lubricants as well as an oil testing machine for determining the lubricating and wearing qualities of lubricants. This laboratory is also equipped

with an electric oven for the heat treatment of steel and with torsion, tension and compression testing machines for determining the strengths of materials.

The main room is given over to the testing of steam, gas and hydraulic machinery as well as of air compressors, air conditioning and heat transfer apparatus. This laboratory is equipped with machinery needed for such testing. The laboratory is also equipped with apparatus needed in studying heating and ventilating problems. There is also an ample supply of other apparatus needed in conducting various tests and for the conducting of research work in various lines.

The wood shop is equipped with thirty-three benches, and complete wood working equipment for 160 students.

The equipment of the machine shop consists of the modern complete apparatus found in an up-to-date commercial shop, and a large number of small tools, including micrometers, calipers and gauges necessary for accurate work.

In the forge shop are seventeen Sturtevant down-draft forges, with anvils and necessary tools.

Military Department.—Recognizing in military training a source of physical, mental, and moral development for the individual and a future safeguard for the nation, the University maintains two units of the Reserve Officers Training Corps. This corps, which is described in the later pages of the catalog, consists of over fifty thousand students in all of the principal educational institutions of the country. It was organized by Congress in 1916 to provide systematic military training in civil institutions and to train specially selected students as reserve officers in the military forces of the United States.

The training of the corps is under the supervision of the Secretary of War. Officers and non-commissioned officers of the regular army are detailed at the University for carrying on this training. The War Department loans all the necessary equipment of the latest type, so that with the exception of a few text-books required by advanced students, members of the R. O. T. C. are put to no expense for arms or equipment.

In addition to the infantry and artillery equipment furnished by the government, there is a 20-yard indoor gallery rifle, a 100-inch outdoor machine gun and a 50-yard outdoor pistol range available for the use of students. The rolling country in the vicinity furnishes opportunity for extended order drill and field exercises, and the athletic field for close order drill.

The cadets wear, when on duty of a military character, the olive drab uniform prescribed by standing orders of the War Department and furnished by the government.

Upon the graduation of each class, those students who have satisfactorily completed the course receive commissions as second lieutenants in the officers reserve corps of the United States Army.

Physics.—The department of physics is housed in the west end of DeMeritt Hall. In the basement is located the introductory physics laboratory with apparatus room, a photographic laboratory, a switchboard hall, a storage room and two small dark rooms for the individual work of the instructors. On the first floor is located the general physics laboratory and apparatus room, a recitation room and the department office. On the second floor is located the lecture room, with adjoining apparatus room.

Instruction in physics is given primarily by recitations and laboratories, with frequent lectures, examinations, written reports and personal conferences. The aim of the department is to develop student minds capable of doing independent thinking in the science of physics. There is a small but well chosen collection of apparatus for use in laboratories and lectures.

Poultry Husbandry.—The equipment of the poultry plant consists of a permanent laying house housing 1,000 birds; a 30 by 30 laying house housing 300 birds; twenty-four colony houses capable of brooding 12,000 chickens; two incubator cellars, one containing a Mammoth Incubator of 4,800 egg capacity, and a smaller cellar containing eight small machines of three different makes; a feed house containing an egg room, storage room enough for a carload of grain; twelve colony brooders of five different makes including both oil and coal burners.

The hens number 1,200 and consist of Barred Plymouth Rocks, Single Comb Rhode Island Reds, and Single Comb White Leghorns.

The whole plant is run on a strictly commercial basis demonstrating the methods and systems used at a successful, money-making poultry plant. The poultry plant is self-supporting, proving that the theories taught are sound.

A new laboratory 32 by 22 has just been constructed and equipped for conducting experiments and research in poultry diseases and for the use of students taking advanced work in poultry husbandry.

Zoölogy.—The University is favorably situated geographically for the study of zoölogy. Within a few minutes' walk of the laboratory, the

Oyster River meets the tide water from Great Bay. This furnishes a graduation of salt, brackish and fresh water with an abundance of their characteristic fauna. On the other hand, there are numerous bodies of fresh water, with typical fresh water forms.

The department of zoölogy is prepared to offer courses in systematic zoölogy, physiology and sanitation, philosophical zoölogy, and anatomical zoölogy.

The equipment for the work in systematic zoölogy, consists of a well-lighted laboratory, provided with tables, charts, dissecting and compound microscopes. All of the latest books and periodicals on systematic zoölogy are at the student's disposal.

The proximity to both salt and fresh water renders the work in advanced systematic zoölogy unusually attractive. In addition to the regular collecting equipment, nets, aquaria, etc., advanced students also have the use of rowboats and a gasoline launch.

In the work in physiology, hygiene and sanitation, the department is provided with an unusually fine collection of injected preparations of the human body, and with numerous charts.

For work in evolution and experimental zoölogy the department has a very complete library. Studies in ecology in Great Bay and vicinity are encouraged, for which purpose the students have the use of a camera equipment. In addition to the study of evolution under natural conditions the department also furnishes aquaria for laboratory study and experiments.

The work in anatomical zoölogy is greatly facilitated by an abundance of fresh material which may be collected as needed. For the study of human and comparative anatomy a full set of skeletons and preserved material is provided. Students interested in histology have access to a private collection of some two thousand microscope slides.

Museum.—The museum had for a nucleus the collection made during the state geological survey. To this, additions have been made from various sources. Specimens are being collected to illustrate the zoölogy of New Hampshire, and New Hampshire collectors and naturalists are invited to make the museum the permanent depository of their collections.

GENERAL INFORMATION

EXPENSES

Estimate of Freshman Expenses

	High	*Average*	*Low*
Room (Dormitories) *	$120.00	$72.00	$63.00
Board (at Commons)	215.00	215.00	215.00
Tuition**	150.00	150.00	75.00 and a scholarship
Uniform †	.....	.....	.....
Books	35.00	35.00	35.00
Laundry	35.00	20.00	15.00
Incidentals ‡	100.00	60.00	50.00
Total	$655.00	$552.00	$453.00
Expenses, Fall Term §	$275.00	$225.00	$185.00

Tuition—Four-Year Students.—Tuition is $150 a year for residents of New Hampshire and $250 for non-residents. For non-resident students who entered the University before the end of the college year 1927–28, the tuition is $225. Tuition is paid in advance in three equal installments, one on the first day of each term.

A diploma fee of $5 is charged upon graduation. Charges will be assessed for extraordinary breakage or damage. No laboratory or course fees are charged. Payment of the tuition entitles the student (four-year, two-year or special) to admission to all varsity athletic games and contests.

Tuition—Two-Year Students.—Tuition for two-year students in agriculture is $85 for residents of New Hampshire and $135 for non-residents. Tuition is payable in advance in two installments.

* Send for bulletin on Residential Halls.

** If a non-resident, add $100 to high and average and $175 to low. If a resident and not holding a scholarship, add $75 to low.

† Uniform for members of the Reserve Officers' Training Corps is provided by the federal government. A deposit of $15 is required in advance of each student having military equipment in his possession.

‡ Expenses for travel, clothing, etc., vary with the individual student, and should be added. The subscription price to the *New Hampshire*, the college paper, is $1.50 per year. Subscriptions are taken during registration at the opening of the college year. Provision should also be made for participation in other student enterprises.

§ Board and incidentals are largest the Fall Term, and deposit for uniform is required then. Hence the greater proportional expense.

Books.—Students may purchase books, drawing instruments, gymnasium equipment, materials, etc., at the University bookstore in Thompson Hall.

Rooms.—The University has three dormitories for women and four for men. All rooms are heated, lighted and furnished. Bed linen, quilts and towels, however, are provided by the individual student. Each women's dormitory is equipped with a laundry. In many cases, three students occupy a suite of rooms. Prices range from $60 to $120 a year for each student. Applications for rooms in the dormitories should be addressed to The Registrar, University of New Hampshire, Durham.

A Five Dollar ($5.00) Room Deposit must accompany each application, this deposit to be forfeited if the room accepted is not occupied by the applicant. The deposit is held as a guarantee against breakage and will be returned upon the payment of any bills for damage at the close of the year or upon withdrawal.

Room rent is payable in advance in three equal installments, one on the first day of each term except as noted below.

Rooms reserved will be held only until September 1st unless one-third of the annual rent is paid before that date.

Rooms paid for and not occupied one day after registration may be declared vacant and the room rent returned, unless the individual having the reservation makes a written request to the Registrar to hold the room until a later date. The advance payment for the room will not be returned to those making this special request. No room will be reserved more than ten days after the registration date. Early application is necessary in order to secure a choice of rooms. Rooms in private dormitories or families may be secured for about the same prices as for those in college dormitories.

Women students, unless living at home, are required to room in one of the women's dormitories, or in approved houses. A competent matron is in charge of each women's dormitory.

Board.—A Dining Hall is operated and supervised by the University for the accommodation and benefit of the students. All Freshmen, whose homes are not located in Durham or who are not residents of Durham, will be required to board at the University Dining Hall. The aim of the compulsory regulation is to insure a broad fellowship in the class, and to safeguard the health of the first-year students by offering skilled dietetic oversight in the selection and preparation of their food. The Dining Hall is equipped with the best appliances for cooking and

serving on a large scale, and is subject to constant sanitary inspection by the University physician. Board is $215 for the college year, payable $75 at registration for the first term, and $70 at registration for each of the second and third terms.

A cafeteria is open for all students of the upper classes who may desire to take advantage of the low price and the high quality of food available at the University Dining Hall.

Health Service.—The Health Department with the University physician in charge is devoted to the prevention of sickness and the maintenance of the health and efficiency of the students. The University maintains an infirmary with a matron and a trained nurse in charge.

Checking Accounts.—Students are earnestly urged to arrange checking accounts in their home banks in order to avoid possible loss resulting from keeping on hand considerable amounts of money. The Business Office will accept and cash student checks. Such banking arrangements will also facilitate payment of registration bills which are strictly due and payable on registration day.

Self-Support.—A great many students earn their education in part by means of their own labor summers and while in college. An employment bureau for men is maintained by the Young Men's Christian Association, and inquiries from the men should be addressed to the Secretary, Christian Work, Inc., Durham, N. H. The employment bureau cannot promise work to a student, because in so small a town as Durham there is not enough work to go around. In the fall and spring terms freshmen can get work several afternoons a week doing such odd jobs or chores as taking care of lawns, gardens, furnaces, etc. By the end of freshman year they may reasonably hope to get a steady job such as waiting on table, serving as janitor in one of the University buildings, etc. But students are urged not to count too much upon earning their way the first year, and should be sure of at least $400, a low estimate of the first year's expense, from other sources.

Employment for the girls is in the hands of the Dean of Women, and inquiries from girls should be addressed to her.

Withdrawal from University.—Students desiring to withdraw from the University should apply to the Registrar for permission and request papers of honorable dismissal. Students withdrawing without permission will have their grades reported as zero at the end of the term and all refunds withheld until notice of such withdrawal has been filed with the Registrar.

UNIVERSITY AID TO STUDENTS

Scholarships.—A limited number of scholarships are awarded annually for the purpose of aiding deserving students. In order to grant scholarships equitably the University requires full information of all applicants relative to the necessity for scholarship aid. Scholarship application blanks will be provided upon request to the Dean of the Faculty.

These scholarships will be forfeited at any time for misconduct. They will also be withdrawn from students in four-year courses who fail to secure an average grade of 60 during any one term, and only in cases of special financial necessity will they be restored by the President.

Scholarships furnished by the state may be granted to students who have attended college for less than three terms.

A more detailed description of the several classes of scholarships follows:

Conant Scholarships.—These scholarships provided by the bequest of John Conant, of Jaffrey, pay tuition and are good for one year. By the terms of the bequest they are open to men taking agricultural courses and preference is given to residents of Cheshire County. Application should be made to the Dean of the Faculty.

Lougee Scholarships.—Beginning in 1921 the interest on $5,000 bequeathed by Amos Lougee of Somersworth, N. H., has been expended for scholarships of $75 each ($50 for two-year students). They will be assigned each year and will be good for one year only. No applications can be approved without satisfactory evidence that the candidates *would be unable to attend without the aid of the proposed scholarships.* Until July 15 of each year, preference will be given to residents of Strafford County.

Applications should be made direct to the Dean of the Faculty.

Valentine Smith Scholarships.—Through the generosity of the late Mr. Hamilton Smith of Durham, the sum of $10,000 has been given to establish the Valentine Smith scholarships.

"The income thus accruing shall be given to the graduates of an approved high school or academy who shall, upon examination, be judged to have the most thorough preparation for admission."

Competitive examinations for this scholarship will be held in Thompson Hall at the University, September 11 and 12, 1928. Examinations will commence at 10 A. M. on Tuesday. Contestants must present the

usual credentials fulfilling the requirements for entrance, and must pass examinations in English, American History, Algebra through Quadratics, Plane Geometry and either Physics or Chemistry.

Requests for examinations should be forwarded to the Dean of the Faculty at least one week before the beginning of the examination period, and must state the names and addresses of the students, and the examinations desired.

Examinations are not restricted to residents of the state.

Class Memorial Scholarships.—In accordance with a communication presented to the trustees by the Alumni Association in 1922, each class upon graduation establishes a fund of $3,000, the interest of which will be used in payment of a class scholarship, to be awarded by a committee appointed by the President. The respective classes shall forward recommendations to this committee which will investigate such recommendations before awarding the scholarships.

Scholarships shall be limited to candidates of the highest moral standards, physically sound, and preference shall be given to those who require financial aid in order to continue their education, and shall be dependent upon the same factors as govern the holding of other scholarships as regards grades.

Eighteen classes, 1922 to 1940, will establish these scholarships, and each scholarship shall be dedicated to the name of one of the eighteen New Hampshire men who died in the service of his country during the World War. Four classes have established their scholarships to date.

They are: Forrest E. Adams Scholarship, Class of 1922; Paul E. Corriveau Scholarship, Class of 1923; Pitt Sawyer Willand Scholarship, Class of 1924; George D. Parnell Scholarship, Class of 1925.

Ralph D. Hetzel Interscholastic Debating Scholarships.—The Board of Trustees of the University on Dec. 20, 1926, set aside three scholarships each year for three years to be awarded to the three interscholastic debaters who should qualify under regulations defined by the Interscholastic Debating League or by the University. These scholarships are limited to residents of New Hampshire.

Hunt Scholarship.—A special scholarship paying tuition has been established by the trustees at the request of the United States War Department for the benefit of soldiers, or sons and daughters of soldiers, in the Regular Army. This scholarship is named in honor of Colonel William E. Hunt, New Hampshire College, 1899, and Colonel Charles A. Hunt, New Hampshire College, 1901, who have rendered conspicuous

and gallant service as officers of the Regular Army before and during the World War. This scholarship will be granted each year and will be good for one year only. Application should be made direct to the Dean of the Faculty. An application form will be furnished which must be used by the candidate. The conditions laid down on this form must be carefully observed. After being filled out and properly signed, it should be sent to the Dean of the Faculty. Upon approval, a scholarship will be forwarded to the candidate. The application cannot be approved without satisfactory evidence that the candidate *would be unable to attend without the aid of the proposed scholarship.* Preference will be given to a New Hampshire soldier.

Concord Alumni Scholarship Fund.—The Concord Branch of Alumni of the University of New Hampshire recently voted to begin the establishment of a scholarship fund. For the present, in accordance with the suggestion of the Concord Branch, money paid in from year to year will be employed as a part of the Student Loan Fund of the University. Ultimately, the principal and such interest as accrues will be transferred to a special scholarship fund.

Frank B. Clark Fund.—A trust fund of $10,000 has been provided by Frank B. Clark of Dover, N. H., the income of which is to be used for the purpose of assisting and encouraging needy and worthy students who are suffering from physical impairment or deformity.

"Students impaired by the loss of an arm shall receive prior consideration."

"The benefits of this gift are to be available to students in any secondary school or college except a secondary school or college which is under the direction or control of a church or religious affiliations or preferences, and with the further understanding that students at the University of New Hampshire shall be given prior consideration."

Dads' Hetzel Scholarship Fund.—At the second annual Dads' Day at the University, the fathers present voted to establish a scholarship fund to be known as The Dads' Hetzel Fund and subscribed $304. For the present this money will be employed as a part of the Student Loan Fund of the University. Ultimately the principal and such interest as accrues will be transferred to a special scholarship fund.

Free Scholarships.—To aid students who need and deserve financial assistance, the trustees award 200 free scholarships annually to residents of New Hampshire. Each scholarship pays $75 for a four-year and $50 for a two-year student, and is good for one year only.

Applications for these scholarships must be returned to the Dean of the Faculty not later than July 15.

Recommendations for free scholarships may be made by the subordinate and Pomona Granges, state senators, State Federation of Women's Clubs, and citizens of New Hampshire.

Upon investigation and approval scholarships will be granted to those whose need appears to the committee to be the greatest.

Deferred Tuition Loans.—In order to enable students to attend the University, who would be unable to do so without the aid of a loan, the University will grant loans to be applied toward tuition up to $100 in each college year. These loans will bear interest at the rate of 2 per cent until graduation or withdrawal from the University, and 5 per cent after graduation or withdrawal, and are payable as follows: $5 a month beginning one year after graduation or withdrawal; $10 a month beginning two years after graduation or withdrawal; $15 a month, beginning three years after graduation or withdrawal, etc.

Cash Loan Fund.—Money will be loaned to needy Juniors and Seniors who are economical in their expenditures and who are working to pay a portion of their expenses. These loans will bear interest at 2 per cent until graduation or withdrawal from the University, and 5 per cent after graduation or withdrawal.

D. A. R. Loan Fund.—The Daughters of the American Revolution of New Hampshire have recently created a "Student Loan Fund" for the benefit of students of any educational pursuit. This fund is administered by the Student Loan Fund Committee of the University.

Prizes.—*Bailey Prize.*—Dr. C. H. Bailey of Gardner, Mass., and E. A. Bailey, B.S., of Keene, N. H., offer a prize of ten dollars for proficiency in chemistry.

Erskine Mason Memorial Prize.—Mrs. Erskine Mason of Stamford, Conn., has invested one hundred dollars as a memorial to her son, a member of the class of 1893, the income of which is to be given, for the present, to that member of the senior class who has made the greatest improvement during his course.

Parker Debating Cup.—The University of New Hampshire Debating League was reorganized in 1921, and is under the direction of the instructor in debating and public speaking in the University. Any secondary school of the state is eligible for membership. Preliminary contests are conducted at the schools, and a final contest is held at the University to determine the winner of the League. A prize cup, the

gift of Walter M. Parker, late Treasurer of the University, is awarded in rotation to the winners. Badges are awarded to the individual debaters and engraved certificates to the schools.

Interscholastic Prize Speaking Contest for students of any accredited high school of the state (provided they have not already won the first prize in a previous year) was first held in May, 1912. Three medals of the value of thirty dollars are provided by the University for the winners. The contest is under the direction of the instructor in oral English.

University Inter-Fraternity Scholarship Cup for Men.—Through the generosity of Wilford A. Osgood, '14, a cup is donated which is to be awarded each year to that four-year University fraternity whose members have the highest scholastic standing as certified by the Registrar. The cup will belong permanently to that fraternity winning it three times in succession.

Fraternities eligible to compete for this cup must have been members of Casque and Casket for at least two years and must have been active on the campus during that length of time.

Diettrich Cup.—This cup was given by the class of 1916 in memory of Rosina Martha Diettrich, a member of that class, who died a few weeks before graduation. The cup is to be awarded each year to the girl who attains the highest scholarship in her junior year. The cup is to remain in her possession throughout her senior year and until the next winner is named.

The University of New Hampshire Military Honor Medal.—This medal is made possible through the generosity of Major S. G. Eaton and the members of the Students Army Training Corps on duty in December, 1918. The medal is not to be awarded on a basis of perfection at drill, but rather on the strength of such qualities as physique, force of character, energy, mentality, courage, leadership, and in general such characteristics as advertise the owner to be of greatest value to his country in a military way in the advent of another war.

Katherine DeMeritt Memorial Prize.—Dean Elizabeth P. DeMeritt has offered a prize of $20, in memory of her daughter of the class of 1908, to that Junior girl who, during her three years in college, has shown the greatest aptitude for helpful leadership and cheerful loyalty combined with strength of character and scholastic attainments. (Established 1923.)

Bartlett Prize.—Former Governor John H. Bartlett (University of New Hampshire, 1920, honorary) of Portsmouth, N. H., offers a prize

of $50 each year, to be awarded at Commencement to that New Hampshire student, a member of the junior class, who ranks highest in scholarship for the year among those young men who have earned at least one-half their expenses since entering the University. This prize was awarded first in June, 1921.

Chi Omega Prize.—The Chi Omega sorority of the University offers a prize of ten dollars for the best thesis written by a woman student in Sociology on a subject approved by the head of the sociology department. The theses submitted will be graded by a joint committee composed of the heads of the departments of Sociology, English, and Economics or History.

Class of 1899 Prize.—The class of 1899 has given to the University a fund of $500, the income to be used as a cash prize to be awarded "by the faculty to the senior who in their opinion has developed the highest ideals of good citizenship."

Phi Mu Medal.—The local chapter of Phi Mu offers a gold medal to the senior girls, to be awarded on the following basis: 50 points for excellence in physical education, determined by both skill and the spirit in which the work is carried; the remaining 50 points must be attained by evidence of unusual scholastic capacity, democracy, loyalty, and helpfulness in college associations and activities. No candidate will be considered who does not have an average grade for her college work above 80.

Phi Sigma Prize (Pi Gamma).—In order to promote high scholarship in Zoölogy and the allied sciences, the Phi Sigma national honorary fraternity offers a prize of $25 to be awarded at Commencement to that senior who shall rank highest in zoölogical subjects throughout the entire four years of collegiate work. The amount of work carried in Biology, together with the average grade in all other subjects shall be considered in making this award. First offered, June, 1922.

Hood Prizes.—Through the kindly interest and generosity of Charles H. Hood of the class of 1880, the income of funds given to the University in 1921 and in 1924 will be used for the encouragement, aid, and benefit of deserving students.

In accordance with the suggestions of the donor, for the present the income will be expended as follows:

First. *Hood Achievement Prize.*—A gold medal will be awarded annually to that member of the senior class whom the members of the three upper classes choose as giving the greatest promise of becoming a worthy

factor in the outside world through his character, scholarship, physical qualifications, personal popularity, leadership and usefulness as a man among men.

Second. *Hood Dairy Prizes.*—A part of the Hood income will be devoted each year to paying a portion of the expenses of the members of a team or teams chosen for excellence in judging dairy cattle and sent to participate in intercollegiate or other dairy contests. Also suitable medals will be provided for the individual members of such teams.

Third. *Hood Supplementary Bequest.*—The income from this bequest will be used for the purchase of a suitably inscribed trophy to become the property of the University. The names of the winners of prizes in dairy cattle judging are to be inscribed annually upon this trophy which will thus serve as a permanent record to the institution of their skill and accomplishments.

The Fairchild Memorial Prizes.—In 1927 Mask and Dagger, the dramatic society of the University of New Hampshire, established two prizes of twenty-five dollars each to be awarded each Commencement to the two senior students who have done the most to promote dramatics during their four years at the University. One prize is awarded for excellence in acting, and one for excellence in the technical phases of play production. These prizes are given in memory of Edward T. Fairchild, late president of the University.

The Donald Waling Memorial Prize.—Mrs. Donald Waling, of Keene, N. H., offers in memory of her husband an annual prize of ten dollars in gold to the senior student who, during his college course, has made the most outstanding artistic contributions to the plays produced by Mask and Dagger, and has done the most to promote the general welfare of the society. The head of the English Department and the director of Dramatics shall determine the winner of this prize.

Thomas J. Davis Prize.—Thomas J. Davis, late of Duluth, Minn., a native and former resident of Durham, has provided funds, the present income of which is $30, for the establishment of Dairy and Household Science prizes as follows:

First,—$15 for competitive judging of dairy cattle by "Short Course Students," excluding all four-year students, and allowing a suitable handicap in favor of students who are taking a course of not more than four months.

Second,—$15 to young women taking a short course for competitive bread baking as a half unit and for dairy butter making as another half unit.

Alpha Xi Delta Cup.—A cup will be awarded annually by the Alpha Xi Delta sorority to the senior girl who proves herself to be the best athlete in her class. The cup will be awarded on consideration of the following qualifications: good sportsmanship, physical fitness, athletic achievements, and superior skill. The cup will be awarded by a board of judges including the members of the department of Physical Education for Women, the president of the Women's Student Government and the president of the Women's Athletic Association.

STUDENT ORGANIZATIONS

Student Publications.—*The New Hampshire*, a weekly newspaper giving undergraduate and alumni news.

The Granite, an annual issued by the junior class.

The Golden Bull, the undergraduate comic magazine.

Student Council.—The Council is arbiter in all inter-class affairs affecting the student body and regulates intra-mural activities.

Young Men's Christian Association.

Young Women's Christian Association.

Christian Work.—Christian community service is encouraged by various activities, including a reception to new students; publishing a handbook which is given to all new students; operating an employment bureau; providing a second-hand text-book exchange; and maintaining a club room.

The Advisory Board for Christian Work employs an inter-church student's pastor and a women's secretary. They coöperate with the Y. M. C. A. and Y. W. C. A. in the promotion of their work, as well as in carrying definite responsibility for the pastoral work among the students. Generous contributions are received yearly from the Baptist, Congregational, Methodist Episcopal and Presbyterian organizations and the State Committee of the Y. M. C. A. Everything possible is done in a social and pastoral way for the students of all religious denominations, whether Protestant, Catholic or Hebrew.

Athletic Association.—Every undergraduate automatically becomes a member of the Association upon enrollment in the University by paying the regular fees. This entitles each student to admission to all home athletic games.

Musical Clubs.—The musical clubs include: Men's Glee Club, Women's Glee Club, Orchestra and Band.

The Women's Student Government Organization.—It includes all women students of the University who, with faculty advisors, formulate and enact the rules governing women students.

Agricultural Club.—The primary object of this club is to discuss agricultural topics of scientific interest, and to provide a common meeting-ground for all agricultural students.

Mask and Dagger.—An honorary dramatic society which presents annually three dramatic productions.

Alpha Chi Sigma.—Composed of men who are to take up some branch of chemistry as their life work. Membership is honorary.

Alpha Zeta.—The professional honorary fraternity of agricultural students.

Book and Scroll.—An honorary literary society composed of honor students in English.

Iota Chi.—The honorary journalistic society of the University.

Phi Sigma.—A national honorary biological fraternity, founded in 1915, for the purpose of promoting interest in research in the biological sciences.

Phi Lambda Phi.—An honorary physics society, whose members are students of high standing in physics.

Le Cercle Français.—This honorary society was established in the spring of 1919 to offer competent students an opportunity to acquire a speaking knowledge of the French language.

Phi Kappa Phi.—A national honorary fraternity founded in 1897 for the purpose of promoting the highest grade of scholarship. A chapter was established at the University in 1922. Its membership consists of the upper 15 per cent of the senior class. Members are elected at the beginning of the first and third terms.

Casque and Casket.—This society is composed of students of the upper classes, having an equal number of members from each fraternity. The group regulates all inter-fraternity relations on the campus.

Pan Hellenic.—This organization transacts all business of common interest to the women's fraternities.

Forestry Club.—This organization was formed to bring together students who are interested and are specializing in the study of forestry.

Tau Kappa Alpha.—A national honorary debate and oratory society.

Pi Eta Phi.—Organized in 1926 to foster the interests of professional education.

Student Branch of the American Institute of Electrical Engineers.

Student Branch of the American Society of Mechanical Engineers.

METHODS OF ADMISSION

Except as necessary to limit numbers and provided the special requirements of the separate colleges are fully met, the University of New Hampshire will admit New Hampshire students who are graduates of high schools or academies of New Hampshire that are approved by the State Board of Education, or who are graduates of other specially approved schools.

By vote of the Trustees and within the limits of state law, the number of four-year students entering the University of New Hampshire in 1928–29 from without the state shall not exceed, in each year, eight per cent of the total enrollment of the entering class of the four-year course of the preceding year. The prescribed number may be admitted by the Entrance Committee in accordance with such methods of selection as are deemed wise.

Applicants for admission to the University will be required to submit two application forms: (1) an "admission credential" blank filled out by the headmaster or principal of the secondary school from which they are graduated; (2) a "personal statement" blank filled out by the applicant. These blanks have been sent to the secondary schools of New Hampshire, and they can be secured upon application to the Registrar of the University. Both blanks should be forwarded to the Dean of the Faculty at the earliest practicable date.

The Trustees of the University have found it necessary to limit the number of four-year students for 1928–29 to 1,600. Under the circumstances it is desirable that applicants for admission, both from within and without the state, should forward their personal statements and credentials as early as April 1st, it being understood that the preparatory school work will be completed in June. Credentials should cover work done as nearly as possible up to March 1st, and they are not desired before that date. Personal statements, however, may be forwarded at any preceding time.

Applicants whose records do not give evidence of capacity, disposition and preparation adequate for successful college study may be required to withdraw their applications. In so far as is practicable, officers of the University will arrange for personal conferences with such applicants.

If further reduction of numbers is found to be necessary, late applications may be rejected.

Candidates for admission to the freshman class of each college must show evidence, either by credential or by examination, that they are prepared in fifteen units as indicated in the following table:

An entrance unit represents one study of four or five recitations a week for one year. It is assumed that two hours of manual training or laboratory work are equivalent to one hour of classroom work.

	Required Units	*College of Agriculture*	*College of Liberal Arts*	*College of Technology*
Group A	English	3	3	3
*Group B**	Mathematics	2	2	3
Group C	Social Science and History	1	1	1
Group D	Natural Science	1	1	1
Group E	Foreign languages	0	0	0
Group F	Vocational subjects	0	0	0
		7	7	†8
	Elective Units	8	8	7
	Total for admission	15	15	15

Elective units may be offered from all groups.

Entrance examinations will be given at the University at the time of opening in September. Requests for these examinations should be forwarded to the Dean of the Faculty at least one week in advance.

Cases not covered by the above statements will be decided by the entrance committee of the faculty.

Candidates for advanced standing may be admitted on the basis of the work completed at the institutions from which they come.

Every candidate for admission to the University shall be required to procure a statement, signed by the town or city clerk, to the effect that the father or legal guardian is a resident of the town or city and state from which he purports to register. Students admitted from foreign countries or states other than New Hampshire shall be deemed to be non-resident students throughout the entire University course unless

* A candidate for admission to the College of Liberal Arts who offers two units in a single foreign language may substitute for the two units required in Mathematics two additional units in subjects named in groups A, C, D and E above.

† Students entering the College of Technology must offer 15 units, three of which should be in Mathematics including Algebra, Plane and Solid Geometry, but students offering only two units of Mathematics including Algebra and Plane Geometry may be admitted conditioned in one unit of Mathematics.

and until the parents or legal guardian shall have gained residence in New Hampshire.

Admission of non-resident candidates will be by selection, and only records of good grade will be considered; character, leadership, alertness, etc., will also be taken into account. Because of the large number of New Hampshire students needing financial assistance in the way of work, only a very limited number of applications can be considered which do not give evidence of reasonable financial backing.

FRESHMAN WEEK

Freshman Week was instituted at the University of New Hampshire in 1924. It is evident from a study of the results of the activities of this "week" that it has served as a valuable means of adjusting freshmen to their new environment, of creating right attitudes towards college work and of minimizing the usual lost motion during the first few weeks of the regular term. By means of so-called "placement tests" the students will be sectioned according to their abilities and aptitudes. The week also affords an opportunity for the students to learn to know each other, to organize their efforts, to work together, to play together, and to become acquainted with the campus, the buildings, the faculty and with the courses of study and the traditions of the University.

Attendance of all freshmen throughout Freshman Week, beginning Tuesday, September 11, and continuing through Saturday, September 15, will be obligatory. Any prospective candidate for the freshman class who is absent from the exercises beginning on September 11 will seriously imperil his admission to the University.

REQUIREMENTS IN DETAIL

GROUP A. ENGLISH

The examination paper in English will be based upon the principle that the way to learn to write is to read.

All candidates will be required to write a series of short themes which will show an adequate knowledge and thorough appreciation of certain great English classics as literature—as "the life blood of the mind." The classics selected are as follows: Shakespeare's Merchant of Venice, Henry V, and Macbeth; one novel each by Scott, Dickens, George Eliot, Stevenson, Cooper and Hawthorne; one essay each by Macaulay, Ruskin and Lowell; the subject-matter and nature of the poetry of Wordsworth, Byron, Tennyson, Longfellow and Whittier.

As a special test in spelling, grammar, punctuation and paragraphing, the candidate will be required to write a short theme upon some subject pertaining to the home or school life of the average high school senior.

An optional question will be offered for the purpose of discovering the candidate's familiarity with the best modern periodical literature.

GROUP B. MATHEMATICS

1. Elementary Algebra.—The four fundamental operations for rational algebraic expressions. Factoring, determination of highest common factor and least common multiple by factoring. Fractions, including complex fractions, and ratio and proportion. Linear and quadratic equations, both numerical and literal. Problems depending on linear and quadratic equations. Radicals, including the extraction of the square root of polynomials and of numbers. Exponents, including the fractional and negative.

2. Advanced Algebra.—The formula for the nth term and the sum of the terms of arithmetical and geometrical progressions, with applications. The theory and use of logarithms, without involving the use of infinite series. The binomial theorem for positive integral exponents. Complex numbers, with graphical representation of sums and differences. Determinants limited to simple cases. The elements of the theory of equations.

3. Plane Geometry.—The usual theorems and constructions of good text-books, including the general properties of plane rectilineal figures; the circle and measurement of angles; similar polygons; areas; regular polygons, and the measurement of the circle. The solution of numerous original exercises, including loci problems. Applications to the measurement of lines and plane surfaces.

4. Solid Geometry.—The usual theorems and constructions of good text-books, including the relations of lines and planes in space; the properties and measurement of prisms, pyramids, cylinders and cones; the sphere and the spherical triangle. The solution of numerous original exercises, including loci problems. Applications to the measurement of surfaces and solids.

5. Plane Trigonometry.—The subject-matter of plane trigonometry as presented in good text-books, including the solution and use of trigonometric equations of a simple character, the use of logarithms, the solution of right and oblique triangles, and practical applications.

6. Review Mathematics.—A general mathematics review during half of senior year is recommended, especially for students preparing for college engineering courses. A certificate covering the work of not more than one unit will be accepted for entrance. No examinations will be given.

GROUP C. SOCIAL SCIENCE AND HISTORY

This group includes history, political economy, and commercial law.

Although there are excellent text-books in history, an adequate preparation cannot be obtained by text-book work alone. Some collateral work is necessary, whatever text-book is used, and with certain text-books a large amount is necessary. The details of the preparatory work in history are fully stated in "A History Syllabus for Secondary Schools," by the New England History Teachers' Association, published by D. C. Heath & Co., Boston, 1904. Details are also stated in "Standard Program for the Secondary Schools of New Hampshire, Department of Public Instruction, Concord, N. H."

1. Ancient History.—This may include the earliest nations and the period to 800 A.D., or it may be limited to Grecian History and Roman History to the fall of the Western Roman Empire.

2. Mediaeval and Modern History.

3. English History.

4. American History and Civics.—The work may conform to the course in American constitutional history described in the "Standard Program" or to the course in American history developed in nearly a hundred pages of the "Syllabus." It is assumed that in any case a reasonable amount of time is to be given to the study of the Constitution of the United States.

5. Political Economy.—(1) The study of a standard text. (2) At least six topics investigated by outside reading.

6. Commercial Law.—(1) Study of a standard text. (2) The study of a total of not less than thirty-six specific cases.

GROUP D. NATURAL SCIENCE

A notebook, carefully kept and examined by the teacher, is an essential part of all laboratory work in science.

1. Botany.—The work in botany should consist of (1) the study of a standard text; (2) four or five exercises a week, at least one of which

should be laboratory work. Either a half or the whole of a year's work will be accepted.

2. Chemistry.—Elementary inorganic chemistry should cover (1) the more common nonmetallic and metallic elements with their most important compounds, together with an introduction to the general theoretical principles; (2) calculations based upon changes of gaseous volumes and chemical equations. A year's work should consist of four or five exercises per week, at least one of which should be laboratory work.

3. Physics.—The standard work in physics should consist of (1) the study of a standard text; (2) not less than forty experiments worked out in the laboratory by each student and properly recorded in a suitable notebook.

4. Zoölogy.—A study of the fundamental principles of animal structure and the dissection of type forms. The student should become familiar with the characteristics of the various phyla of the animal kingdom. The study should consist of four or five exercises a week, at least one of which should be laboratory work. Either a half or the whole of a year's work will be accepted.

5. General Science.—To meet a recent movement in the disposition of the science work in the high schools, a course in general science which amounts to at least four exercises a week for one year will be accepted. Such a course may include something of the biologic and earth sciences, the sciences employed in household economy, and the more common phenomena of physics and chemistry.

GROUP E. FOREIGN LANGUAGES

1. French.—Work of the first year should include (1) careful drill in pronunciation, (2) drill upon the rudiments of grammar, (3) abundant translation of simple English prose into idiomatic French, (4) reading of from 100 to 175 pages of French prose, (5) writing French from dictation. Work of the second year should include (1) the reading of from 250 to 400 pages of easy modern prose, (2) constant practice in translating from English into French variation of the text read, (3) frequent paraphrases of the text read, (4) dictation.

2. German.—Work of the first year should include (1) careful drill in pronunciation, (2) drill upon the rudiments of grammar, such as the inflection of the articles, the common nouns, adjectives, pronouns and

strong and weak verbs; upon the uses of the prepositions, the modal auxiliaries, and the rules of syntax and word order, (3) writing from dictation, (4) the reading of from 75 to 100 pages of prose, (5) translation from English into German. Work of the second year should include (1) the reading of from 150 to 200 pages of prose, (2) constant practice in translating from English into German variations of the text read, (3) dictation, (4) continued drill upon the rudiments of grammar, (5) frequent paraphrases of the text read.

3. Latin, Elementary.—Grammar and the equivalent of four books of Caesar. Two years' work.

4. Latin, Advanced.—Equivalent of Virgil, six books, and Cicero, six orations.

GROUP F. VOCATIONAL SUBJECTS

1. Agriculture.

Agronomy.—A text-book or lecture and recitation subject upon the formation, classification, composition, physical properties and tillage of soils; the kinds, use, value, and function of different chemical fertilizers; the use, composition, and preservation of farm manures; the planting, cultivating, harvesting, use, and marketing of the different kinds of field crops. The text-book and lecture work should be supplemented by field and laboratory exercises. Four or five periods a week for one year.

Animal Husbandry and Dairying.—A text-book and recitation subject upon the types and breeds of horses, cattle, sheep, swine, and poultry with practical exercises in stock judging; a study of the principles of feeding, the classification of animal foods, with practice in computing and mixing rations. Also a subject upon the composition, properties, care and handling of milk, with practical exercises in testing milk, cream, and butter with the Babcock test. Four or five exercises a week for one year.

Horticulture.—A text-book or lecture and recitation subject upon the classes and varieties of fruits; the location and fertilization of orchards; the pruning, grafting, and spraying of fruit trees, with some study of fungous and insect pests. Practical exercises in picking, packing, and marketing of fruit. Also a study in vegetable growing, in which each student learns the classes, varieties, uses, and adaptations of our most important vegetables. Practical gardening work in growing vegetables. Four or five exercises a week for one year.

Rural Economics and Farm Management.—A text-book, lecture and

recitation subject upon the economic relations of land, labor, and capital. A detailed study of the cost of producing and marketing farm and garden crops. Also a study of the business end of farming, buying and selling methods, types of farming, systems of rotation, the keeping of farm accounts, and the making of inventories. Four exercises a week for one year.

2. **Commercial Subjects.**—Bookkeeping, commercial arithmetic, commercial geography, stenography and typewriting.

3. **Domestic Arts.**—Foods and cookery, dressmaking, household sanitation and mechanical appliances, household economics, household design and decoration.

4. **Mechanic Arts.**—Casting, drawing, forging, machine work molding, pattern-making, woodwork.

SPECIAL COURSES

A mature student who is not a candidate for a degree may be admitted as a special student for one year upon the approval of the entrance committee and the dean of the college in which he desires to work. In addition, each application for a subject must have the approval of the head of the department whose work the applicant desires to take. No credit earned by a special student shall count toward a degree except upon recommendation of the entrance committee and the vote of the appropriate college faculty.

ADMISSION BY TRANSFER

A candidate for admission to advanced standing from an institution of collegiate rank may receive credit without examination for work completed at such institution subject to the following requirements:

(1) He must present a catalogue of the institution from which he comes together with an official certificate showing (a) all preparatory subjects accepted for entrance, (b) a complete transcript of his record including grade of scholarship in each subject, (c) a statement of honorable dismissal.

(2) Every candidate for a bachelor's degree, admitted to advanced standing, must remain in residence at the University during his senior year, and must take in regular course at least 150 time units of work.

(3) Regardless of the amount of advanced standing a student may secure, in no case will he be given a bachelor's degree until he has satisfied the full requirements of the curriculum he may elect.

THE GRADUATE SCHOOL

AIMS

The Graduate School aims to meet the needs of superior students who are preparing to become teachers in colleges or universities, or investigators, and to offer opportunities to qualified students for a more advanced training than they can obtain in an undergraduate course.

ADMINISTRATION

Graduate work is offered, under the supervision of the Director of the Graduate School, by competent members of various departments of instruction and research. These members constitute the Faculty of the Graduate School.

The general administrative functions of the Faculty are delegated to the Director and the Council.

ADMISSION

A student who holds a bachelor's degree, or its equivalent, from an approved college or university, will be admitted to graduate study.

A student must have credit in not less than 90 time units, or the equivalent, in the department in which he wishes to be admitted to major.

Admission to graduate study does not necessarily imply admission to candidacy for an advanced degree. Students who are not planning to become candidates for an advanced degree may be admitted to graduate study upon the recommendation of the heads of the departments concerned, and with the approval of the Director.

A student may major or minor only in the departments represented in the catalog of the Graduate School. However, a graduate student who is not a candidate for an advanced degree may be admitted to graduate study in departments not represented in the Graduate School catalog, upon recommendation of the departments concerned and with the approval of the Graduate Council.

REGISTRATION

A student desiring to register for graduate study must submit to the Director of the Graduate School the official application for admission to graduate study. Blanks for this purpose may be obtained from the Secretary of the Council.

Upon admission to graduate work, a student first pays his fee at the Business Office and deposits his enrollment cards with the Registrar.

REQUIREMENTS FOR GRADUATE CREDIT

Graduate credit will not be allowed to undergraduate students unless such credit has been approved in advance by the Director of the Graduate School. No graduate credit will be given to undergraduates who lack more than 25 time units towards the bachelor's degree.

A student will not receive graduate credit for a subject in which he has obtained a grade lower than 70.

ADVANCED DEGREES

Two types of advanced degrees are conferred: (a) Master of Science, and Master of Arts, given only in course, and (b) the professional degrees, Mechanical Engineer, and Electrical Engineer, conferred only upon graduates of this institution, and based upon the quality of their professional work and the presentation of a satisfactory thesis. Information in regard to the professional degrees may be obtained from the Dean of the College of Technology.

Requirements for the Master's Degree

Residence.—A minimum of one full academic year, or four summer sessions, in residence, is required.

Credits.—An average grade of at least 80 in not less than 150 time units is required, of which not less than 80 or more than 100 time units shall be devoted to the major subject (including the thesis), and not less than 30 or more than 50 time units to the minor subjects. Work in allied departments may be properly correlated with the major subject. Not over 50 time units may be given for a thesis. Of the total time units required for an advanced degree, not more than half will be accepted on admission from another institution.

Candidacy.—At least six months previous to the time the degree is sought an application for admittance to candidacy must be submitted to the Council for their approval; and if a thesis is required, the candidate must file with the Council, for their approval, a statement of the thesis subject as recommended by the head of the department in which the thesis work has been done.

Thesis.—All theses must be typewritten upon standard paper, eight and one-half by eleven inches, medium weight, neatly bound in black

cloth, and gilt-lettered on the first cover with the title, name of author, degree sought, and year of graduation. The title page should bear the following statement:

"A thesis submitted to the University of New Hampshire in partial fulfillment of the requirements of the degree of Master of Arts (Master of Science)."

Whenever a thesis is printed in any periodical, it must be designated as having been accepted as a Master's thesis by the University of New Hampshire.

Two bound copies must be filed before Commencement Day, one with the librarian and one with the head of the department in which the major work has been done.

Examinations.—All candidates must meet the regular departmental requirements as to examinations in the subjects for which they are registered, and the requirement of a special comprehensive examination, by the heads of the departments in which the major and minor subjects have been taken, three months previous to the time the degree is sought. In addition, the candidate must pass an oral examination by a special committee designated by the Council and including the heads of the departments in which the major and minor subjects have been taken, before the candidate may be recommended for the Master's degree.

For detailed information concerning graduate study see catalog of the Graduate School.

PROFESSIONAL DEGREES IN ENGINEERING

Mechanical, Electrical, and Civil Engineering graduates of the University of New Hampshire are eligible to register as candidates for professional degrees in these three branches of engineering.

These degrees will be granted, after the preparation of acceptable theses, to those having not less than four years' professional experience subsequent to the bachelor's degree, in which the applicants have wholly or in part supervised, directed or designed engineering work; or have been in responsible charge of instruction or research in engineering. The acceptability of the theses and professional experience is determined by an examining committee.

Procedure.—The procedure for candidates for professional engineering degrees is as follows:

(1) Prepare an outline for a thesis after consultation with the head of the department concerned.

(2) When the thesis subject is accepted by the head of the department in which the degree is to be taken, the candidate will be registered in the Registrar's Office. This registration must be completed by October 1st of the school year in which the degree is to be conferred.

(3) The first draft of the thesis must be submitted to the professor in charge not later than March 1st, and the completed thesis in its final form by May 1st.

(4) Pass an examination at the University covering the candidate's professional practice and the engineering principles underlying the thesis.

(5) Pay the diploma fee of $5.00 at the Business Office not later than 12 noon of the Saturday next preceding the date when the degree is conferred.

Thesis.—The thesis must be typewritten upon standard paper, eight and one-half by eleven inches, medium weight, neatly bound in black cloth, and gilt-lettered on the first cover with title, name of author, degree sought, and year of graduation. The title page should bear the following statement:

"A thesis submitted to the University of New Hampshire in partial fulfillment of the requirements for the professional degree of Mechanical Engineer (Electrical Engineer or Civil Engineer)."

Whenever a thesis is printed in any periodical, it must be designated as having been accepted as a Professional Engineering thesis by the University of New Hampshire.

Two bound copies must be filed before commencement day, one with the Librarian and one with the head of the department in which the major work is done.

UNDERGRADUATE DEGREES

The University confers two undergraduate degrees: Bachelor of Science and Bachelor of Arts.

Agriculture and Technology: The degree of Bachelor of Science is conferred upon students graduating from the College of Agriculture and from the College of Technology.

Liberal Arts: The degree of Bachelor of Science is conferred upon students graduating from the College of Liberal Arts who have elected a prescribed course in Arts Chemistry, Business Fundamentals, Home Economics, Premedical, Professional Education, or who have majored in the General Arts Course in any of the following departments: Architec-

ture, Botany, Chemistry, Economics and Accounting, Education, Entomology, Geology, Physics, Sociology, Zoölogy.

The degree of Bachelor of Arts is conferred upon students graduating from the College of Liberal Arts who have elected a prescribed course in Pre-Law or who have majored in the General Arts Course in any of the following: Art in the department of Architecture, English, French, German, Latin, Spanish, History, Music, Philosophy, Psychology, Political Science.

College of Agriculture Requirements

The completion of 600 time units.†

The completion of the subjects required in any one of the four-year agricultural courses.

Students graduating from the four-year courses in agriculture must present to the dean of the College of Agriculture, on or before the second Tuesday preceding commencement, satisfactory evidence of having had practical experience in farm work, either through having lived on a farm for at least two years subsequent to the age of 12, or through having worked on a farm for at least six months subsequent to the age of 16.

Students graduating from the Forestry Course must have spent at least three months in practical forest work, which time will be counted as a part of the six months' requirement.

Students graduating from the Horticultural Course or the Poultry Course must have spent five months, including the spring term of the junior year, in supervised practice work on a farm of recognized standing.

College of Liberal Arts Requirements

† Completion of 600 time units of which 50 may be required each term.

Completion of subjects required in any one of the four-year courses offered by the Liberal Arts College.

COURSE REQUIREMENTS

1. *General Liberal Arts Course.*

The General Liberal Arts Course, beginning in 1928–29, will be divided into a Lower Division, including the freshman and sophomore years, and an Upper Division, including the junior and senior years.

† A time unit is one hour of student work in class or in preparation.

Lower Division (Freshman and Sophomore Years)

A. General.

Completion of the following prescribed subjects:

Convocation	Freshman and sophomore years
* English 1.5a, 2.5b, 3.5c	Freshman year
* English 4a, 5b, 6c	Sophomore year
Physical Education 51a, 52b, 53c	Freshman year—Men
Physical Education 1a, 2b, 3c, and 13c	Freshman year—Women
Physical Education 54a, 55b, 56c	Sophomore year—Men
Physical Education 4a, 5b, 6c	Sophomore year—Women
Military Science 1a, 2b, 3c	Freshman year—Men
Military Science 4a, 5b, 6c	Sophomore year—Men

B. Special.

Completion of two full years, elected from each of the following three groups of subjects. Not less than one year's work in any given subject shall count toward the fulfillment of this requirement.

Group 1.

a. Mathematics.

b. History.

c. English, French, German, Latin, Spanish.

Group 2.

Botany, Chemistry, Entomology, Geology, Physics, Zoölogy.

Group 3.

Economics, Education, Political Science, Psychology, Social Science, Philosophy, and Sociology.

C. Selection at the beginning of the freshman year of a tentative major department. This major may be changed with the approval of the Dean at the beginning of any term.

Certification

The Dean of the College of Liberal Arts shall certify students to the Registrar on completion of their Lower Division work.

Upper Division (Junior and Senior Years)

A. Convocation (Junior and Senior years)

B. Physical Education 7a, 8b, 9c (Junior year—Women)

C. Election of a major course of study.

* Not to be used to meet special requirements.

At the beginning of the junior year every student shall choose a major department. The head of each major department, in conference with the student (certified as stated above), shall designate a major course of study which shall make up 150 time units in the major and related departments exclusive of elementary subjects. This shall constitute a major course of study in which the student must secure a grade of 75 or better in each subject of 100 time units. The major course of study selected shall become the student's required work, and a copy of the schedule of subjects, approved by the head of the major department, shall be filed in the office of the Dean. The student shall choose enough electives to make up 600 time units for the four-year course.

A student may not change his major course of study except with the approval of the Dean and the head of the department to which he is transferring.

2. *Prescribed Courses* (College of Liberal Arts).

a. The following prescribed courses lead to a degree of Bachelor of Science: Arts Course in Chemistry, Business Fundamentals, Professional Education, Home Economics; Teacher Training, Institutional Management, Extension Training Course, Pre-Medical Course, Professional Physical Education for Women.

They require the completion of 600 time units of which an average of 50 may be required each term and the completion of the special course requirements in accordance with the revised policy on certification at the end of the sophomore year, in the College of Liberal Arts. See p. 56.

b. The prescribed course of Pre-Law leads to a degree of Bachelor of Arts. It requires the completion of 600 time units and the completion of special course requirements, in accordance with the revised policy on certification at the end of the sophomore year, in the College of Liberal Arts. See page 56.

3. *Honors Courses* (Senior Year)

Work in Honors Courses is of a more mature and advanced nature than work offered in the general and prescribed courses. It is of a sort intended to encourage individual initiative and to conserve the resourcefulness of the student. All Honors courses are year courses. A term course, so listed, cannot be taken without special approval of the committee in charge.

Honors work is of two kinds:

1. Honors based on special work undertaken in addition to the regular program of general and prescribed courses.

2. Honors based on work superseding that of the regular major course requirements of the upper division.

At the beginning of his senior year, a student who has met his course requirements and who has shown promise in the work of his freshman, sophomore, and junior years may pursue Honors Work if nominated by his major advisor and if approved by the appropriate Related Subject Matter Committee. The student working in Honors may have the following privileges:

a. He may carry a regular schedule, if doing quality work.

b. He may substitute Honors Work for his prescribed or major course requirements of the upper division.

c. His attendance is regulated by agreement with his instructor.

In addition to weekly reports and conferences, such tests as may seem best in his case are given to each student at the end of each term. At the end of the year the student is given comprehensive written examinations and an oral examination.

If, for any reason, a student fails to show proper appreciation of the privilege of pursuing the Honors Course, he will be given examinations at the end of any term, and work successfully passed will be evaluated, by the committee in charge, toward graduation.

College of Technology Requirements

The completion of 600 time units.

The completion of the subjects required in any one of the four-year engineering courses.

COURSES

The University is closely related to the public school system of the state. It continues the work of the high school and is open to both men and women. In accord with the origin and function of the University, its courses are essentially practical, leading directly to the student's preparation for a successful livelihood.

I. College of Agriculture.

a. Four-Year Courses.

1. General Agriculture.
2. Agricultural and Biological Chemistry.
3. Animal Husbandry.
4. Dairy Husbandry.
5. Forestry.
6. Horticulture.
7. Poultry Husbandry.
8. Teacher Training.

b. Two-Year Course in Agriculture.

c. Farmers' and Home Makers' Week.

II. College of Liberal Arts.

a. Four-Year Courses.

1. General Liberal Arts.
2. Education.
    i. Professional Education.
3. Home Economics.
    i. Teacher Training.
    ii. Institutional Management.
    iii. Extension Training.
4. Arts Course in Chemistry.
5. Pre-Architecture.
6. Business Fundamentals.
7. Pre-Medical.
8. Pre-Law.
9. Physical Education for Women.
    i. Professional Physical Education.

b. Extension.

III. College of Technology.

a. Four-Year Courses.

1. Architecture.
2. Chemical Engineering.
3. Civil Engineering.
4. Electrical Engineering.
5. Mechanical Engineering.

b. Options.

1. Industrial Engineering. Three year option in Mechanical Engineering.
2. Industrial Teacher Training. Senior year option for Mechanical and Electrical Engineering students.

FOUR-YEAR COURSES

COLLEGE OF AGRICULTURE

FREDERICK W. TAYLOR, *Dean*

DEPARTMENTS

AGRICULTURAL AND BIOLOGICAL CHEMISTRY
AGRICULTURAL ECONOMICS
AGRONOMY
ANIMAL HUSBANDRY
BOTANY
DAIRY HUSBANDRY
ENTOMOLOGY
FORESTRY
HORTICULTURE
POULTRY HUSBANDRY

This college of the University offers a four-year course for the general education and scientific training of students in the various phases of agriculture. The lecture and recitation work of the classroom is supplemented largely by practical exercises in the laboratories. Seminar subjects are also given, especially for seniors and advanced students. During the freshman year all agricultural students take the same work. At the beginning of the sophomore year those desiring to major in Forestry must take certain prescribed subjects relating to that line of work. Other students will continue the regular work of the sophomore year and will select their major course at the beginning of the junior year. The work of the first two years for all of the agricultural students consists mainly of subjects in the fundamental sciences of agriculture and of basic subjects in the various departments of applied agriculture.

Many of the graduates of the four-year course return to the farm for the purpose of putting into practice the knowledge and training of their college work, and many of them have become successful and prosperous citizens of their communities; others, who have no farms of their own, accept salaried positions as superintendents or foremen on the dairy, fruit, stock or poultry farms of large owners; still others take positions as teachers of science and agriculture in our secondary schools, or as assistants in our agricultural colleges, experiment stations or extension service work.

The courses from which the agricultural student may now make his selection are as follows:

1. General Agriculture.
2. Agricultural and Biological Chemistry.
3. Animal Husbandry.
4. Dairy Husbandry.
5. Forestry.
6. Horticulture.
7. Poultry Husbandry.
8. Teacher Training.

General Agriculture.—This course is offered especially for the student who wishes to secure a broad, general training in all the important branches of agriculture without specializing in any particular one. The fundamental sciences of chemistry, botany, biology, physics and economics are studied together with their application to the arts of field crop production, orcharding, dairying, farm management, poultry raising and the handling of the farm woodlot. The student, therefore, who expects to engage in general farming will find this so-called general course with its wide range of elective subjects a most profitable and interesting one.

This course also offers an opportunity to the student who wishes to specialize in some line of Extension Service work like that of a county agent, a boys' club leader, a marketing or farm management investigator, or a soils and crops specialist.

Agricultural and Biological Chemistry.—Students majoring in this subject receive training in the various branches of general chemistry and in their application to the growth and development of plants and animals. The methods used in the chemical analysis of plants and agricultural products and in the study of animal nutrition and metabolism are given especial attention. Aside from the technical and general requirements, numerous electives are offered which enable the student to obtain a more general training, to elect work in the applied departments of the college, or to obtain the professional work needed for teaching in the schools of the state. The course is designed to provide a thorough foundation for those expecting to prepare themselves for teaching and research in colleges and experiment stations. The department is fortunate in being associated with the experiment station and in that connection having charge of the chemical analysis of feeds and fertilizers for the State Department of Agriculture. This furnishes an opportunity for the students to come in contact with the inspection and research work of the department and to have the benefit of its equipment.

Animal Husbandry.—This course is offered to the student who wishes a specialized training in the practical and intelligent management, selection, breeding and feeding of livestock, including horses, beef and dual purpose cattle, sheep and swine. This work is arranged so that the student may elect a reasonable number of subjects in horticulture, forestry, dairying, poultry keeping and other branches of general farm activity, thus fitting him for the management of a general livestock

farm. The course also serves to prepare students for the more specialized requirements of civil service and other public employment.

Dairy Husbandry.—The Dairy Husbandry Department offers subjects in dairy production (that is, the care, feeding and management of dairy cattle), and in dairy manufactures (that is, the manufacture, the handling, and the distributing of dairy products). The department has at its disposal the dairy building, with modern equipment, and the college dairy herd of 70 pure bred animals. Excellent facilities are thus provided for teaching a dairy husbandry course.

Forestry.—By selecting the forestry course the student will be able to fit himself for practical work upon graduation, or to enter a graduate forest school. The first two years in the fundamental sciences, and the basic subjects in applied agriculture, furnish an excellent preliminary training for any forestry student. The college forest of sixty acres of old-growth pine and hemlock, and other areas of natural and planted growth, furnish the laboratory for the forestry student. Ample opportunity is given to study the various forest problems in the open as well as in the classroom.

Students in the forestry course go into camp for a period of six weeks during the summer of their junior year in order to get practical experience in camp life and in the survey, valuation, and management of large tracts of woodland.

Horticulture.—The object of this course of study is to equip the students with a knowledge of fundamental sciences such as can be obtained only through university training, and to help them form the habit of using this knowledge in solving practical problems in fruit and vegetable production. In order to emphasize the relation between science and practice and to give the uninitiated a more intimate contact with the problems which they will need to solve, a five months period of practice work is required of students in the junior year. The study of insects and diseases (the control of which forms an important part of the work of the horticulturist) is required, as is also work in plant physiology which forms a basis for understanding the growth and development of plants. During the junior and senior years opportunity is given for the student to elect subjects in other branches of agriculture which may be helpful in meeting his own particular problem. Students who successfully complete this work may feel prepared to undertake either practical farming or further training along technical lines which will fit them for professional work in teaching or research.

Instruction in landscape design and related subjects is designed to enable the students to appreciate ornamental plants and their use in beautifying home and civic grounds. Instruction in floriculture is on a similar basis.

Sufficient work is offered in apiculture to enable students to engage in beekeeping for pleasure, honey production, and for the purpose of pollinating fruit trees and other plants.

The horticultural department is well equipped with gardens, orchards, grading and packing plant, bee equipment, greenhouses and laboratories, for the study of the different phases of this industry, especially fruit growing, which is so prominent in the agriculture of the state.

Poultry.—This course of study is designed for those students who desire the necessary information and training to operate a poultry plant, or to teach poultry husbandry. The college plant, with a capacity of 1,400 hens, affords ample opportunities for laboratory work and for meeting all the practical problems of the industry which the poultryman may encounter. As a part of the prescribed work, the student will be required to spend five months, including the spring term of the junior year, at a commercial plant of recognized standing.

Teacher Training.—Under the provisions of the Smith-Hughes Act, the University of New Hampshire has been designated as the institution in this state for the training of teachers of agriculture. This course gives the young man a broad training in the fundamental sciences and in general agriculture. In addition, he receives professional training in such educational subjects as psychology, principles of education, methods of teaching and supervised practice teaching. Students who complete the course and who have had the requisite amount of practical experience on the farm will be accredited as teachers.

There is a rapidly increasing demand for teachers of agriculture in our secondary schools. Local school boards are beginning to appreciate more fully the value of instruction in agriculture for the boys of the community who will not have the opportunity to continue their studies at the University. As a result, there are many good paying positions open for the young men who wish to make the teaching of agriculture a profession.

COLLEGE OF AGRICULTURE

ALL COURSES

Freshman Year

	Fall Term Units	*Winter Term Units*	*Spring Term Units*
Eng. 1–a, 2–b, 3–c (*English Composition*)	7½	7½	7½
Bot. 1–a, 2–b, 3–c (*Elementary Botany*)	8	8	8
Chem. 10–a, 11–b, 12–c (*Inorganic Chemistry*)	8½	8½	8½
A. H. 1–a (*Breeds of Livestock*)	8		
Agric. 1–b (*Survey of Agriculture*)		2	
For. 1–a (*Principles of Forestry*)	9		
Math. 21–b, 22–c (*Elements Mathematical Analysis*)		7	7
Zoöl. 30–b, 31–c (*General Zoölogy*)		8	8
Mil. Sci. 1–a, 2–b, 3–c (*Military Art*)	5	5	5
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	2	2	2
Sci. Sur. 1–a, 2–b, 3–c	2	2	2
Convocation	1	1	1
	51	51	49

Sophomore Year

(*All courses except Forestry*)

Agron. 1–a (*Agricultural Engineering*)	9		
Agron. 4–c (*Soils*)			10
Agr'l Chem. 1–a (*Organic Chemistry*)	8		
Agr'l Chem. 2–b, 3–c (*Agricultural Chemistry*)		8	8
Ento. 1–a (*Economic Entomology*)	10		
Poul. 1–a (*Farm Poultry*)	7		
Phys. 1–a, 2–b (*Introductory Physics*)	8	8	
Bot. 10–b, 11–c (*Bacteriology*)		8	8
D. H. 1–b (*Farm Dairy*)		10	
Geol. 20–b (*Elementary Geology*)		8	
Hort. 1–c (*Vegetable Gardening*)			5
Hort. 3–c (*Elementary Pomology*)			5
†A. H. 2–c (*Livestock Judging*)			5
†D. H. 2–c (*Dairy Cattle Judging*)			5
†M. E. 7–c (*Agricultural Drawing*)			5
†Hort. 19–c (*Beekeeping*)			5
†M. E. 13–c (*Woodshop*)			5
Mil. Sci. 4–a, 5–b, 6–c (*Military Art*)	5	5	5
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	2	2	2
Convocation	1	1	1
	50	50	49

† One of the five subjects noted must be taken; Teacher-Training students must take Woodshop.

Junior and Senior Years

Note 1.—At the beginning of the junior year students will choose their major course. Their registration card must then be approved by the head of the department in which the major is taken.

Note 2.—During the junior and senior years 15 time units of so-called cultural subjects must be taken by all students, except those in the Teacher-Training course.

GENERAL AGRICULTURE

Junior Year

	Fall Term Units	Winter Term Units	Spring Term Units
Agron. 2–a (*Forage Crops*)	7		
Econ. 101–a, 102–b (*Elementary Economics*)	7½	7½	
Zoöl. 32–a (*Genetics*)	8		
Agron. 3–b (*Cereal Crops*)		7	
Agr'l Ec. 3–b (*Rural Economics*)		9	
Agr'l Ec. 4–c (*Farm Records and Accounts*)			8
Eng. 60–c (*Public Speaking*)			7½
Convocation	1	1	1
Elective	26½	25½	33½
	50	50	50

Senior Year

Agr'l Ec. 2–a (*Farm Management*)	11		
A. H. 3–a (*Feeds and Feeding*)	10		
Eng. 73–a (*Expository Writing*)	7½		
Agron. 6–b (*Fertilizers*)		8	
Elective	21½	42	50
	50	50	50

AGRICULTURAL AND BIOLOGICAL CHEMISTRY

Junior Year

	Fall Term Units	Winter Term Units	Spring Term Units
Chem. 25–a, 26–b, 27–c	7½	7½	7½
Chem. 40–a, 41–b, 42–c (*Organic*)	5	7½	7½
German or French (*Elementary*)	7½	7½	7½
Econ. 101–a, 102–b (*Elementary Economics*)	7½	7½	
‡Agr'l Ec. 3–b (*Rural Economics*)		9	
Phys. 3–c (*Introductory Physics*)			8
‡Eng. 60–c (*Public Speaking*)			7½
‡Agr'l Chem 6–a (*Plant Chemistry*)	8		
Convocation	1	1	1
Elective	13½	10	11
	50	50	50

Senior Year

Chem. 60–a, 61–b, 62–c (*Physical*)	7½	7½	7½
Chem. 43–b, 44–c (*Organic Laboratory*)		5	5
Chem. 64–b, 65–c (*Physical Laboratory*)		7	7
Agr'l Chem. 7–a, 8–b, 9–c (*Agricultural Analysis*)	10	10	10
†Agr'l Chem. 4–b, 5–c (*Physiological*)		8	8
†Eng. 73–a (*Expository Writing*)	7½		
Elective	25	12½	12½
	50	50	50

‡ These subjects will be scheduled in the Senior year in alternate years, beginning with 1928–29.

† These subjects will be scheduled in the Junior year in alternate years, beginning with 1929–30.

COLLEGE OF AGRICULTURE

ANIMAL HUSBANDRY

Junior Year

	Fall Term Units	Winter Term Units	Spring Term Units
A. H. 4–a (*Animal Anatomy*)	7½		
Agron. 2–a (*Forage Crops*)	7		
Econ. 101–a, 102–b (*Elementary Economics*)	7½	7½	
Econ. 50–a (*Principles of Business*)	9		
Zoöl. 32–a (*Genetics*)	8		
Agr'l Ec. 3–b (*Rural Economics*)		9	
Agr'l Chem. 4–b (*Physiological Chemistry*)		8	
A. H. 5–b, 6–c (*Animal Diseases*)		7½	7½
A. H. 9–c (*Sheep and Swine*)			8½
Eng. 60–c (*Public Speaking*)			7½
Convocation	1	1	1
Elective	10	17	25½
	50	50	50
*D. H. 9–a (*Dairy Bacteriology*)	7½		
*P. H. 5–a (*Poultry Management*)	9		
*Acct. 131–a, 132–b, 133–c (*Elementary Accounting*)	7½	7½	7½
*Agron. 3–b (*Cereal Crops*)		7	
*P. H. 7–b (*Incubation and Brooding*)		11	
*Agr'l Ec. 4–c (*Farm Accounting*)			8
*P. H. 9–c (*Poultry Feeding*)			11
*Zoöl. 40–b, 41–c (*Embryology*)		12	12

Senior Year

A. H. 3–a (*Feeds and Feeding*)	10		
A. H. 7–a (*Animal Breeding*)	10		
Agr'l Ec. 2–a (*Farm Management*)	11		
Eng. 73–a (*Expository Writing*)	7½		
A. H. 10–b (*Horses and Beef Cattle*)		8½	
Agron. 6–b (*Fertilizers*)		8	
Ento. 3–b (*Insects of Domestic Animals*)		7½	
A. H. 8–c (*Markets and Products*)			7½
A. H. 12–c (*Seminar*)			5½
Elective	12½	26	37
	50	50	50
*Agr'l Ec. 1–a (*Agricultural Marketing*)	8		
*For. 23–a (*Farm Woodlot*)	7		
*D. H. 3–a, 3.5–b (*Milk Production*)	10	7½	
*Met. 1–a	7½		
*Hort. 6–b (*Advanced Pomology*)		8	
*Elec. Eng. 6–b (*Electricity on the Farm*)		10	
*Econ. 18–c (*Marketing*)			9

* Recommended electives.

DAIRY HUSBANDRY

Junior Year

	Fall Term Units	Winter Term Units	Spring Term Units
D. H. 9–a (*Dairy Bacteriology*)	7½		
Econ. 1–a, 2–b, 3–c (*Elementary Economics*)	9	9	9
Econ. 50–a (*Principles of Business*)	9		
Zoöl. 32–a (*Genetics*)	8		
D. H. 4–b (*Testing Dairy Products*)		7½	
Agr'l Chem. 4–b (*Physiological Chemistry*)		8	
Agric. Ec. 3–b (*Rural Economics*)		9	
D. H. 7–a (*Butter Making*)	10		
Eng. 60–c (*Public Speaking*)			7½
Agr'l Chem. 19–c (*Dairy Chemistry*)			8
Convocation	1	1	1
Elective	5½	15½	24½
	50	50	50
*Agron. 2–a (*Forage Crops*)	7		
*A. H. 4–a (*Animal Anatomy*)	7½		
*P. H. 5–a (*Poultry Management*)	9		
*Acct. 131–a, 132–b, 133–c (*Elementary Accounting*)	7½	7½	7½
*Agron. 3–b (*Cereal Crops*)		7	
*A. H. 5–b, 6–c (*Animal Diseases*)		7½	7½
*Agric. Ec. 4–c (*Farm Accounting*)			8
*D. H. 11–c (*Judging Dairy Products*)			2½

Senior Year

D. H. 3–a, 3.5–b (*Milk Production*)	10	7½	
Agric. Ec. 2–a (*Farm Management*)	11		
Eng. 73–a (*Expository Writing*)	7½		
D. H. 5–a (*Market Milk*)	10		
Agron. 6–b (*Fertilizers*)		8	
D. H. 6–c (*Ice Cream and Cheese*)			10
D. H. 10–c (*Dairy Seminar*)			5
Educ. 30–c (*Applied Psychology*)			9
Elective	11½	34½	26
	50	50	50
*Agric. Ec. 1–a (*Agricultural Marketing*)	8		
*A. H. 3–a (*Feeds and Feeding*)	10		
*A. H. 7–a (*Animal Breeding*)	10		
*For. 23–a (*Farm Woodlot*)	7		
*Met. 1–a	7½		
*Ento. 3–b (*Insects of Domestic Animals*)		7½	
*Hort. 6–b (*Commercial Pomology*)		8	
*Elec. Eng. 6–b (*Electricity on the Farm*)		10	
*A. H. 9–c (*Sheep and Swine*)			8½
*Econ. 18–c (*Marketing*)			9
*D. H. 12–c (*Advanced Dairy Cattle Judging*)			5

* Recommended Electives.

FORESTRY

Sophomore Year

	Fall Term Units	*Winter Term Units*	*Spring Term Units*
For. 3–a, 4–b (*Dendrology and Wood Identification*)	7	9	
Phys. 1–a, 2–b (*Introductory Physics*)	8	8	
Agr'l Chem. 1–a, 2–b, 3–c (*Agricultural Chemistry*)	8	8	8
For. 5–a, 6–b, 7–c (*Silviculture*)	10	10	10
Ento. 1–a (*Economic Entomology*)	10		
C. E. 6–c (*Surveying*)			7½
Geol. 20–b (*Elementary Geology*)		8	
Agron. 4–c (*Soils*)			10
M. E. 7–c (*Agricultural Drawing*)			5
Mil. Sci. 4–a, 5–b, 6–c (*Military Art*)	5	5	5
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	2	2	2
Convocation	1	1	1
	51	51	48½

Junior Year

Bot. 6–a, 4–b, 5–c (*Histology and Physiology*)	8	8	8
C. E. 7–a (*Surveying*)	7½		
Econ. 101–a, 102–b (*Elementary Economics*)	7½	7½	
Eng. 73–a, 60–c (*Expository Writing*) (*Public Speaking*)	7½		7½
Ento. 13–c (*Forest Insects*)			7½
For. 8–b, 9–c (*Forest Mensuration*)		9	9
For. 16–b, 17–c (*Logging and Forest Products*)		9	7
Convocation	1	1	1
Electives	15½	13½	6
	47	48	46
For. 22–s (*Summer Camp*)			20

Senior Year

Bot. 12–a, 13–b (*Pathology*)	8	8	
Econ. 50–a (*Principles of Business*)	9		
For. 10–a, 11–b, 12–c (*Forest Management*)	8	8	8
For. 13–a, 14–b, 15–c (*Advanced Forestry*)	9	9	9
For. 18–b, 19–c (*Forest Practice*)		8	8
Met. 1–a (*Elementary Meteorology*)	7½		
Electives	8	15	15
	49½	48	40

Note. 1.—Forestry students are required to spend the summer following their Sophomore year working in the woods on some phase of forestry or lumbering.

Note. 2.—Following the junior year all Forestry juniors are required to attend a six-weeks Summer Camp in the northern woods under the supervision of a member of the staff. Successful completion of this work will count for 20 time units towards graduation.

HORTICULTURE

Junior Year

	Fall Term Units	Winter Term Units	Spring Term Units
Econ. 101–a, 102–b (*Elementary Economics*)	7½	7½	
Zoöl. 32–a (*Genetics*)	8		
†Hort. 10–b (*Evolution and Improvement of Plants*)		5	
†Ent. 2–a (*Orchard Insects*)	7½		
Bot. 12–a, 13–b (*Plant Pathology*)	8	8	
Agr'l Ec. 3–b (*Rural Economics*)		9	
Hort. 21–c (*Practice*)			50
Convocation	1	1	
Elective	18	24½	
	50	50	50
*Hort. 2–a (*Greenhouse*)	7		
*Hort. 20–a (*Beekeeping*)	5		
*Agron. 2–a (*Forage Crops*)	7		
*P. H. 5–a (*Poultry Management*)	9		
*Hort. 11–b (*Vegetable Forcing*)		7	
*Agron. 3–b (*Cereal Crops*)		7	
*Acct. 131–a, 132–b, 133–c (*Elementary Accounting*)	7½	7½	7½
*Econ. 50–a (*Principles of Business*)	9		

Senior Year

Hort. 5–a (*Fruit and Vegetable Survey*)	5		
Agr'l Ec. 2–a (*Farm Management*)	11		
Eng. 73–a (*Expository Writing*)	7½		
Hort. 12–a, 12.5–b (*Seminar*)	4	4	
‡Hort. 6–b (*Advanced Pomology*)		8	
Bot. 4–b, 5–c (*Plant Physiology*)		8	8
Hort. 7–c (*Landscape Gardening*)			9
Hort. 7.5–c (*Landscape Gardening: Laboratory Design*)			2
Eng. 60–c (*Public Speaking*)			7½
Elective	15	30	23½
	50	50	50
*Agr'l Ec. 1–a (*Agricultural Marketing*)	8		
*Hort. 17–a (*Commercial Vegetable Gardening*)	7		
*Hort. 18–a (*Ornamental Shrubs*)	5		
*Hort. 22–a (*Fruit Judging*)	7		
*D. H. 3–a, 3.5–b (*Milk Production*)	10	7½	
*Met. 1–a	7½		
*Agron. 6–b (*Fertilizers*)		8	
*Elec. Eng. 6–b (*Electricity on the Farm*)		10	
*Hort. 23–b (*Commercial Pomology*)	7		
*Hort. 9–b, 9.5–c (*Floriculture*)		5	5
*Hort. 4–c (*Small Fruits*)			7
*A. H. 9–c (*Sheep and Swine*)			8½
*Econ. 18–c (*Marketing*)			9

† Given in alternate years.
* Recommended electives.
‡ Not required if Horticulture 17–a is taken.

COLLEGE OF AGRICULTURE

POULTRY HUSBANDRY

Junior Year

	Fall Term Units	Winter Term Units	Spring Term Units
P. H. 5–a (*Poultry Management*)	9		
Econ. 101–a. 102–b (*Elementary Economics*)	7½	7½	
Econ. 50–a (*Principles of Business*)	9		
Zoöl. 32–a (*Genetics*)	8		
P. H. 17–b (*Poultry Marketing*)		7	
P. H. 6–b (*Poultry Diseases*)		10	
Agr'l Ec. 3–b (*Rural Economics*)		9	
P. H. 13–c (*Practical Work*)			50
Convocation	1	1	
Elective	15½	15½	
	50	50	50
*Agron. 2–a (*Forage Crops*)	7		
*A. H. 4–a (*Animal Anatomy*)	7½		
*Agron. 3–b (*Cereal Crops*)		7	
*Hort. 11–b (*Vegetable Forcing*)		7	
*Zoöl. 39–a, 40–b (*Embryology*)	12	12	

Senior Year

P. H. 10–a (*Poultry Breeding*)	7		
P. H. 23–b (*Breeds and Judging*)		6½	
P. H. 31–a, 32–b, 33–c (*Seminar*)	5	5	5
Agr'l Ec. 2–a (*Farm Management*)	11		
Eng. 73–a (*Expository Writing*)	7½		
P. H. 14–a, 15–b, 16–c (*Poultry Research*)	6–9	6–9	6–9
P. H. 7–b (*Incubation and Brooding*)		11	
Eng. 60–c (*Public Speaking*)			7½
P. H. 9–c (*Poultry Feeding*)			11
P. H. 22–c (*Poultry House Construction*)			3
Elective	13½	21½	17½
	50	50	50
*Agr'l Ec. 1–a (*Agricultural Marketing*)	8		
*A. H. 3–a (*Feeds and Feeding*)	10		
*For. 23–a (*Farm Woodlot*)	8		
*Acct. 131–a, 132–b, 133–c (*Elementary Accounting*)	7½	7½	7½
*Met. 1–a	7½		
*Agr'l Chem. 4–b (*Physiological Chemistry*)		8	
*Agron. 6–b (*Fertilizers*)		8	
*Hort. 6–b (*Advanced Pomology*)		8	
*Elec. Eng. 6–b (*Electricity on the Farm*)		10	
*Hort. 4–c (*Small Fruits*)			7
*Econ. 18–c (*Marketing*)		9	

* Recommended electives.

TEACHER TRAINING

Junior Year

	Fall Term Units	Winter Term Units	Spring Term Units
Agron. 2–a (*Forage Crops*)	7		
D. H. 13–a (*Dairy Management*)	10		
Zoöl. 32–a (*Genetics*)	8		
Econ. 101–a, 102–b (*Elementary Economics*)	7½	7½	
Ed. 34–a (*Applied Psychology*)	10		
Agron. 3–b (*Cereal Crops*)		7	
Agr'l Ec. 3–b (*Rural Economics*)		9	
P. H. 11–b (*Poultry for Teachers*)		5	
M. E. 17–b (*Forging*)		7½	
Agr'l Ec. 4–c (*Farm Accounting*)			8
Ed. 40–c (*Classroom Management and Methods*)			10
Eng. 60–c (*Public Speaking*)			7½
P. H. 9–c (*Poultry Feeding*)			11
P. H. 12–c (*Poultry Brooding*)			5
Soc. 29–c (*Rural Sociology*)			8
Convocation	1	1	1
Elective	6½	13	
	50	50	50½
*Ento. 2–a (*Insects of Garden and Orchard*)	7½		
*Acct. 131–a, 132–b, 133–c (*Elementary Accounting*)	7½	7½	7½
*Ed. 31–a (*Genetic Psy.*)		10	
*Ed. 39–b (*Secondary Education*)		9	
*A. H. 5–b (*Animal Diseases*)		7½	
*Hort. 4–c (*Small Fruits*)			7
*Econ. 18–c (*Marketing*)			9
*Hort. 19–c (*Beekeeping*)			5

Senior Year

Agr'l Ec. 2–a (*Farm Management*)	11		
A. H. 3–a (*Feeds and Feeding*)	10		
Bot. 12–a (*Plant Pathology*)	8		
For. 23–a (*Farm Woodlot*)	7		
Ed. 42–a (*History and Principles of Vocational Education*)	10		
Agron. 6–b (*Fertilizers*)		8	
Agron. 13–b (*Repair of Farm Machinery*)		3	
Bot. 18–b (*Plant Pathology*)		3	
Ed. 32–b (*Psychology of Adolescence*)		10	
Ed. 48–b (*Agriculture in High School*)		9	
Ed. 41–c (*Practice Teaching*)			50
Elective	4	17	
	50	50	50
*Agr'l. Ec. 1–a (*Agricultural Marketing*)	8		
*A. H. 14–a (*Breeding and Management of Livestock*)	7½		
*Met. 1–a (*Meteorology*)	7½		
*Elec. Eng. 6–b (*Electricity on the Farm*)		10	
*Hort. 6–b (*Advanced Pomology*)		8	
*Ed. 43–b (*Hygiene of School Child*)		10	

* Recommended electives.

COLLEGE OF LIBERAL ARTS

ALBERT N. FRENCH, *Dean*

DEPARTMENTS

ECONOMICS AND ACCOUNTING	MUSIC
EDUCATION	PHILOSOPHY AND PSYCHOLOGY
ENGLISH	PHYSICAL EDUCATION FOR WOMEN
HISTORY	POLITICAL SCIENCE
HOME ECONOMICS	SOCIOLOGY
LANGUAGES	ZOÖLOGY AND GEOLOGY

In the College of Liberal Arts the following courses are offered:

General Liberal Arts Course.—This course provides a general college training which especially prepares for citizenship, secondary school teaching, business, or graduate study. By means of the group system of elective studies an opportunity is given the student to major toward an A.B. or B.S. degree. (See requirements for Undergraduate Degrees.)

Education—Professional Education Course.—Students preparing to teach in secondary schools should plan to take the course in professional education; also to include as electives, courses in Sociology and Public Speaking. The regulations of the New Hampshire State Board of Education provide that college graduates or other students with four years of post-secondary education will be given secondary licenses provided that their course included 12 semester hours of college work in Education. Education as stated here includes subjects in Education, Psychology, special methods courses, and Educational Sociology. It is recommended to the students of the University of New Hampshire that they plan their courses so as to meet these requirements which are indicative of what other states are specifying for certification to teach.

Students transferring from State Normal Schools who meet the Liberal Arts requirements will be given 267 time units credit for the two-year normal course and 378 time units for the three-year course. Graduates of the Professional Education Course will be entitled to a license to teach in New Hampshire secondary schools. After one year of successful teaching experience they will be entitled to a permanent certificate.

Home Economics Course.—The courses in home economics are planned to meet the demands for scientific training in home making. Special courses are outlined for students who wish to enter fields of

professional activity along educational and institutional lines of work and other courses are offered as electives for students in the Liberal Arts courses who wish to study one or more phases of home making.

The technical work in household science is based upon the principles of physical, biological and social sciences. The subjects in foods, nutrition and dietetics require physics, chemistry and physiology; those in sanitation necessitate a knowledge of chemistry and bacteriology; home administration and the care and education of children demand a knowledge of the principles of human nutrition and dietetics, and of the principles of economics, psychology and sociology. The study of color, and design are fundamental to the work in costume design and house decoration.

The home economics courses offered are as follows:

(1) Teacher Training Course. To prepare students to teach home economics in junior and senior high schools. (See Teacher Training Course.)

(2) Institutional Management Course. To train students for positions as dietitians and managers, or assistant dietitians or assistant managers in public institutions such as college dormitories, hospitals, tea rooms, cafeterias, etc. (See Institutional Course.)

(3) Extension Training Course. To train students to become Home Demonstration Agents and Boys' and Girls' Club Agents.

(4) Elective Work in Homemaking. Students wishing to work in Home Economics or to elect a program in Home Economics subjects should consult the department head.

The Arts Course in Chemistry.—This is a general course in Chemistry. It prepares for certain kinds of commercial chemistry, secondary science teaching, and affords a splendid basis for graduate work in medical schools. The considerable amount of electives permits the student to choose work in education, if professional preparation for teaching is desired.

Business Fundamentals Course.—Students wishing to prepare for a business career should take the general business course. This course has been planned so as to offer the foundation for a broad cultural education during the first and second years of the course, and then to introduce the student to the more general business courses in the Junior and Senior years.

Premedical Course.—This course is offered to meet the needs of students who are preparing for the medical profession.

It is highly desirable that a student should spend four years at this institution in preparation for a medical training, although many medical colleges do not require a degree for entrance. The four years of premedical work will, however, give the student a good cultural foundation for his future premedical work.

Students following the prescribed premedical course will be granted entrance into any Class A medical school. However, owing to the crowded condition of most medical schools, only those students standing in the upper third or half of their class during their premedical work may be admitted. Some medical institutions restrict the number of students from any one premedical school, in which case, preference is always given to those students having the most complete training, and standing highest in their premedical work.

If a student plans to do less than four years of premedical work, he should have his course of study carefully checked by the head of the Zoölogy department.

Pre-Law Course.—This course is planned to meet the needs of students who are looking towards law as a profession. It is highly desirable that four years of pre-law subjects be given unity in a curriculum. (See Pre-Law Course.)

Physical Education.—Professional Education for Women. This course is planned to give definition to the work of a student who wishes to teach physical education. (See Physical Education Course.)

UNIVERSITY OF NEW HAMPSHIRE

COLLEGE OF LIBERAL ARTS

GENERAL LIBERAL ARTS COURSE

Freshman Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Convocation	1	1	1
Eng. 1.5–a, 2.5–b, 3.5–c (*English Reading*)	9	9	9
*Mil. Sci. 1–a, 2–b, 3–c	5	5	5
*Phys. Ed. 51–a, 52–b, 53–c	2	2	2
Elect one subject from each of the three groups, I, II, III:			
Group I.‡a. Math. 101–a, 102–b, 103–c	7½	7½	7½
b. Hist. 101–a, 102–b, 103–c	9	9	9
†c. Lang. 1–a, 2–b, 3–c (*French, German, Latin, Spanish*)	9–10	9–10	9–10
Group II. Bot. 1–a, 2–b, 3–c	8	8	8
Chem. 7–a, 8–b, 9–c	10	10	10
Zoöl. 1–a, 2–b, 3–c	10	10	10
NOTE.—Additional science electives need special approval.			
Group III. Soc. Sci. 1–a, 2–b, 3–c	9	9	9
Preferred Electives:			
Sci. Sur. 1–a, 2–b, 3–c	2	2	2
Ed. 11–a, b, c	6	6	6
	50	50	50

Sophomore Year

Convocation	1	1	1
§Mil. Sci. 4–a, 5–b, 6–c	5	5	5
§Phys. Ed. 54–a, 55–b, 56–c	2	2	2
Eng. 4–a, 5–b, 6–c (*Advanced Composition*)	9	9	9
Elect one from each of the three groups, I, II, III:			
Group I.‡a. Math. 101–a, 102–b, 103–c	7½	7½	7½
b. Hist. 101–a, 102–b, 103–c	9	9	9
†c. Lang. 1–a, 2–b, 3–c (*French, German, Latin, Spanish*)	9–10	9–10	9–10
d. Eng. 16–a, 17–b, 18–c	7½	7½	7½
Group II. Bot. 1–a, 2–b, 3–c	8	8	8
Chem. 7–a, 8–b, 9–c	10	10	10
Geol. 1–a, 2–b, 3–c	8	8	8
Phys. 1–a, 2–b, 3–c	8	8	8
Zoöl. 1–a, 2–b, 3–c	10	10	10
NOTE.—Additional science electives need special approval.			
Group III. Econ. 1–a, 2–b, 3–c	9	9	9
Ed. 21–a, 22–b, 23–c	10	10	10
Pol. Sci. 101–a, 102–b, 103–c	6	6	6
Psy. 21–a, 22–b, 23–c	10	10	10
Phil. 21–a, 227b, 23–c	10	10	10
Soc. Sci. 1–a, 2–b, 3–c	9	9	9
Soc. 14–a, 15–b, 16–c	9	9	9
Electives to meet term requirements.			
	50	50	50

*Physical Education 1–a, 2–b, 3–c and 13–a is required of all Freshmen women.

‡ Mathematics fundamentals necessary.

†Students presenting two years of a language for entrance should secure departmental approval to register for 4–a, 5–b, 6–c.

§ Physical Education 4–a, 5–b, 6–c, (2 units each are required of women students instead of Military Science and Physical Education 54–a, 55–b, 56–c).

Junior Year

Convocation	1	1	1
Phys. Ed. 7–a, 8–b, 9–c (women)	2	2	2
Major requirements and electives to meet term requirements.			
	50	50	50

Senior Year

Major requirements and electives	50	50	50

HOME ECONOMICS COURSES

I. Vocational Courses
   A. Teacher Training Course
   B. Institutional Management Course
   C. Extension Training Course
II. Elective Course in Homemaking

Freshman Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Convocation	1	1	1
Eng. 1.5–a, 2.5–b, 3.5–c (*English Reading*)	9	9	9
Soc. Sci. 1–a, 2–b, 3–c (*Social Science*)	9	9	9
Chem. 13–a, 14–b, 15–c (*Inorganic Chemistry*)	7½	7½	7½
H. E. 1–a, 2–b, 3–c (*Textiles and Elementary Clothing*)	9	9	9
H. E. 102–c (*Vocational Opportunities for Home Economists*)			3
Phys. Ed. 1–a, 2–b, 3–c (*Physical Education*)	2	2	2
Phys. Ed. 13–a (*Health Problems*)	2		
Elect one from the following:			
‡Math. 101–a, 102–b, 103–c (*Elementary Mathematical Analysis*)	7½	7½	7½
Ger. Sp. or Fr. 1–a, 2–b, 3–c or			
Ger. Sp. or Fr. 4–a, 5–b, 6–c	9–10	9–10	9–10
Electives to meet term requirements.			
Preferred Electives:			
Sci. Sur. 1–a, 2–b, 3–c (*Science Survey*)	2	2	2
H. E. 16–a, b or c (*Elementary Weaving*)	1	1	1
H. E. 19–a, b, c (*Advanced Weaving*)	2–4	2–4	2–4
Glee Club	1	1	1
	50	50	50

Sophomore Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Convocation	1	1	1
Eng. 4–a, 5–b, 6–c (*Composition*)	9	9	9
Phys. 32–a, 33–b, 34–c (*Household Physics*)	8	8	8
Agr. Chem. 1–a, 23–b, 24–c (*Organic Physiological Food*)	8	8	8
Zoöl. 33–a, 34–b, 35–c (*Human Anatomy and Physiology*)	8	8	8
H. E. 52–a, 53–b, 54–c (*Foods and Cookery*)	9	9	9
H. E. 84–c (*Home Furnishing*)			6
Phys. Ed. 4–a, 5–b, 6–c (*Physical Education*)	2	2	2
Arch. 20–a, 21–b (*Domestic Architecture*)	4	4	
Electives to meet term requirements.			
	50	50	50

‡ Mathematics fundamentals necessary.

JUNIOR YEAR

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Convocation	1	1	1
Phys. Ed. 7–a, 8–b, 9–c	2	2	2
Econ. 101.5–a, 102.5–b, 103.5–c	6	6	6
Bot. 8–a, 8.5–b (*Bacteriology*)	9	9	
Psy. 31–a, 32–b, 33–c	10	10	10
* H. E. 4–a, 5–b (*Advanced Clothing*)	6	6	
* H. E. 15–c (*Millinery*)			6
H. E. 57–b (*Meal Preparation*)		6	
H. E. 60–c (*Dietetics*)			9
H. E. 70–c (*The Child*)			6
H. E. 72–a (*The Family*)	6		
H. E. 82–a (*Home Management*)	9		
Electives to meet term requirements.			
	50	50	50

TEACHER TRAINING COURSE

SENIOR YEAR

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Ed. 40–c (*Classroom Management and Methods*)			10
Ed. 42–a (*History and Principles of Vocational Education*)	10		
H. E. 7–a, 8–c (*Dress Design*)	6		6
H. E. 88–a or 90–c (*Home Management House*)	18		18
H. E. 106–a, 108–c (*Home Economics Education*)	9		9
H. E. 107–b (*Home Economics Teaching*)		50	
Zoöl. 28–a (*First Aid and Home Care of the Sick*)	6		
Electives to meet term requirements.			
	50	50	50

INSTITUTIONAL MANAGEMENT COURSE

SENIOR YEAR

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Zoöl. 13–a, 14–b, 15–c (*Hygiene and Sanitation*)	7	7	7
Ent. 4–c (*Household Insects*)			7½
Acct. 112–a, 113–b (*Accounting*)	10	10	
H. E. 91–a, 92–b (*Institutional Management*)	6	6	
H. E. 94–a –b –c (*Institutional Practice*)	9 or	9 or	9
Zoöl. 28–a (*First Aid and Home Care of the Sick*)	6		
Electives to meet term requirements.			
	50	50	50

* Not required of Institutional Management students.

EXTENSION TRAINING COURSE

Senior Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Zoöl. 13–a, 14–b (*Hygiene and Sanitation*)	7	7	
Agri. 2–b (*Extension Organization and Methods*)		8	
Agri. 3–c (*Supervised Extension Work*)			50
Soc. 2–b (*Communities and Territorial Groups*)		6	
H. E. 7–a, 8–c (*Dress Design*)	6		6
H. E. 106–a (*Home Economics Education*)	9		
H. E. 88–a (*Home Management House*)	18		
D. H. 8–a (*Domestic Dairying*)	7½		
Zoöl. 28–a (*First Aid and Home Care of the Sick*)	6		
Electives to meet term requirements.			
	50	50	50

1. Elective Course in Homemaking.

Students wishing to elect work in Home Economics should arrange their schedules with the head of the department.

ARTS COURSE IN CHEMISTRY

Freshman Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Chem. 1–a, 2–b, 3–c (*Inorganic Chemistry*)	7½	10	10
‡Math. 201–a, 202–b, 203–c (*Unified Mathematics*)	12	12	12
Eng. 1.5–a, 2.5–b, 3.5–c (*English Reading*)	9	9	9
Geol. 1–a, 2–b, 3–c (*Geology*)	6	6	6
Sci. Sur. 1–a, 2–b, 3–c	2	2	2
Mil. Sci. 1–a, 2–b, 3–c (*Military Science*)	5	5	5
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	2	2	2
Chem. 22–c (*Qualitative Analysis*)			7½
Convocation	1	1	1
	43½	46	53½

Sophomore Year

Chem. 23–a (*Qualitative Analysis*)	7½		
Chem. 40–a, 41–b, 42–c (*Organic Chemistry*)	5	7½	7½
Chem. 28–b, 29–c (*Quantitative Analysis*)		8½	8½
Chem. 43–b, 44–c (*Organic Chemistry Laboratory*)		5	5
Math. 7–a, 8–b (*Calculus*)	7	7	
Phys. 6–a, 7–b, 8–c (*Physics*)	8½	8½	8½
Phys. 9–a, 10–b, 11–c (*Physics Laboratory*)	11	10	10
Mil. Sci. 4–a, 5–b, 6–c (*Military Science*)	5	5	5
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	2	2	2
Convocation	1	1	1
	47	54½	47½

Junior Year

Chem. 30–a, 31–b, 32–c (*Quantitative Analysis*)	16	16	12
Chem. 60–a, 61–b, 62–c (*Physical Chemistry*)	7½	7½	7½
Chem. 63–b, 64–c (*Physical Chemistry Laboratory*)		7	7
Ger. 1–a, 2–b, 3–c (*German*)	9	9	9
Convocation	1	1	1
Electives	12½	12½	18
	44½	51½	53

‡ Mathematics fundamentals necessary.

SENIOR YEAR

Chem. 80–a, 81–b, 82–c (*Advanced Inorganic Chemistry*)	7½	7½	7½
Chem. 133–a, 134–b, 135–c (*Thesis*)	17½	17½	17½
Chem. 130–a, 131–b, 132–c (*Seminar*)	2½	2½	2½
Ger. 4–a, 5–b, 6–c (*German*)	10	10	10
Eng. 4–a, 5–b, 6–c (*English*)	9	9	9
Elective	9	9	9
	55½	55½	55½

BUSINESS FUNDAMENTALS COURSE

FRESHMAN YEAR

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Convocation	1	1	1
Mil. Sci. 1–a, 2–b, 3–c (*Military Science*)	5	5	5
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	2	2	2
Eng. 1.5–a, 2.5–b, 3.5–c (*English Reading*)	9	9	9
Math. 101–a, 102–b, 103–c (*Mathematics*)	7½	7½	7½
Soc. Sci. 1–a, 2–b, 3–c (*Social Science*)	9	9	9
A Science (*Botany, Chemistry, Physics, Zoölogy, Geology*)	7–10	7–10	7–10
*A Foreign Language or European History	9	9	9
Sci. Sur. 1–a, 2–b, 3–c	2	2	2
	50–51	50–51	50–51

SOPHOMORE YEAR

Convocation	1	1	1
Mil. Sci. 4–a, 5–b, 6–c (*Military Science*)	5	5	5
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	2	2	2
Eng. 4.5–a, 5.5–b, 6.5–c (*Business English*)	9	9	9
Acct. 112–a, 113–b, 114–c (*Accounting*)	10	10	10
Econ. 1–a, 2–b, 3–c (*Principles of Economics*)	9	9	9
Econ. 50–a (*Principles of Business*)	9		
Econ. 7–b, 8–c (*Economic and Commercial History*)		9	9
Math. 1.5–a, 2.5–b, 3.5–c (*Mathematics*)	7½	7½	7½
	52½	52½	52½

JUNIOR YEAR

Convocation	1	1	1
Com. Law 71–a, 72–b, 73–c (*Commercial Law*)	9	9	9
Econ. 13–a, 14–b (*Money and Banking*)	9	9	
Econ. 18–c (*Marketing*)			9
Econ. 22–a (*Corporations*)	9		
Acct. 115–a, 116–b, 117–c (*Accounting*)	10	10	10
Elective	12	11	12
	50	50	50

SENIOR YEAR

Econ. 10–a (*Labor Problems*)	10		
Econ. 54–b (*Corporation Finance*)		9	
Econ. 57–c (*Salesmanship*)			9
Eng. 61–a (*Argumentation and Debating*)	9		
Eng. 60–c (*Public Speaking*)			7½
Electives	31	41	33½
	50	50	50

* Not a beginning foreign language.

PREMEDICAL COURSE

Freshman Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Convocation	1	1	1
Chem. 7–a, 8–b, 9–c (*Inorganic Chemistry*)	10	10	10
Eng. 1.5–a, 2.5–b, 3.5–c (*English Reading*)	9	9	9
Fr. 4–a, 5–b, 6–c (*French Prose*) or	10	10	10
Ger. 1–a, 2–b, 3–c (*Elementary German*)	9	9	9
Mil. Sci. 1–a, 2–b, 3–c (*Military Science*)	5	5	5
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	2	2	2
‡Math. 101–a, 102–b, 103–c (*Mathematics*) or	7½	7½	7½
Soc. Sci. 1–a, 2–b, 3–c (*Social Science*)	9	9	9
Zoöl. 1–a, 2–b, 3–c (*Principles of Zoölogy*)	10	10	10
	50	50	50

Sophomore Year

Convocation	1	1	1
Chem. 25–a, *26–b, 27–c (*Introductory Qualitative and Quantitative Analysis*)	10	10	10
Eng. 4–a, 5–b, 6–c (*English Composition*)	10	10	10
Fr. 7–a, 8–b, 9–c (*French*) or	10	10	10
Ger. 4.5–a, 5.5–b, 6.5c (*Scientific German*)	8½	8½	8½
Mil. Sci. 4–a, 5–b, 6–c (*Military Science*)	5	5	5
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	2	2	2
Zoöl. 45–a, 46–b, 47–c (*Comparative Anatomy*)	12	12	12
	50	50	50

Junior Year

Convocation	1	1	1
Chem. 46–a, 47–b, 48–c (*Organic Chemistry*)	9	9	9
Chem. 49–a, 50–b, 51–c (*Organic Laboratory*)	6	6	6
Phys. 17–a, 18–b, 19–c (*Premedical Physics*)	14	14	14
Zoöl. 10–a, 11–b, 12–c (*Neurological Laboratory*)	4	4	4
Zoöl. 7–a, 8–b, 9–c (*Comparative Neurology*)	10	10	10
*Eng. 61–a (*Argumentation and Debating*)	9		
*Eng. 16–a, 17–b, 18–c (*English Literature*)	9	9	9
*Eng. 60–c (*Public Speaking*)			7½
*Fr. 13–a, 14–b, 15–c (*Advanced French*)	10	10	10
*Geol. 1–a, 2–b, 3–c (*Elementary Geology*)	6	6	6
*Ger. 7–a, 8–b, 9–c (*Advanced German*)	10	10	10
*Hist. 104–a, 105–b, 106–c (*History of United States*)	8	8	8
*Psy. 21–a, 22–b, 23–c (*Introduction to Psychology*)	10	10	10
*Soc. 14–a, 15–b, 16–c (*Principles of Sociology*)	9	9	9
*Zoöl. 36–a, 37–b, 38–c (*Histology*)	12	12	12
	50	50	50

Senior Year

Zoöl. 39–a, 40–b, 41–c (*Embryology*)	12	12	12
*Chem. 66–a, 67–b, 68–c (*Physical Chemistry*)	7½	7½	7½
*Agr'l Chem. 4–b, 5–c (*Physiological Chemistry*)		8	8
*Econ. 1–a, 2–b, 3–c (*Principles of Economics*)	9	9	9
*Hist. 107–a, 108–b, 109–c (*English History*)	9	9	9
*Phil. 31–a, 32–b, 33–c (*Philosophy*)	9	9	9
*Pol. Sci. 104–a, 105–b, 106–c (*American and Municipal Government*)	9	9	9
*Psy. 47–a, 48–b, 49–c (*Physiological Psychology*)	10	10	10
*Soc. 24–a, 25–b, 26–c (*Advanced Sociology*)	9	9	9
*Zoöl. 16–a, 17–b, 18–c (*Evolution and Genetics*)	7	7	7
	50	50	50

‡ Mathematics fundamentals necessary.
* Recommended electives.

PROFESSIONAL EDUCATION

Freshman Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Convocation	1	1	1
*Ed. 11–a–b–c	6	6	6
Eng. 1–a, 2–b, 3–c	7½	7½	7½
Hist. 101–a, 102–b, 103–c	9	9	9
†Mil. Sci. 1–a, 2–b, 3–c	5	5	5
†Phys. Ed. 51–a, 52–b, 53–c	2	2	2
Sci. Sur. 1–a, 2–b, 3–c	2	2	2
Soc. Sci. 1–a, 2–b, 3–c	9	9	9
Elect one of following: Botany, Chemistry, Physics, Zoology	8–10	8–10	8–10
	50	50	50

Sophomore Year

Convocation	1	1	1
Ed. 21–a, ‡22–b, 23–c	10	10	10
Eng. 4–a, 5–b, 6–c	9	9	9
§Mil. Sci. 4–a, 5–b, 6–c	5	5	5
§Phys. Ed. 54–a, 55–b, 56–c	2	2	2
Psy. 21–a, 22–b, 23–c	10	10	10
‖Group I elective	9	9	9
‖Group II elective	7	7	7
	53	53	53

Junior Year

Convocation	1	1	1
Ed. ‡31–a, 32–b, ‡33–c	10	10	10
Ed. 38–a, ‡39–b, ‡40–c	10	10	10
Eng. 60–c			7½
Electives:			
Two courses in Major Field	20	20	10
Special Methods in Major Field	10	10	10
	51	51	48½

Senior Year

Courses in Major Field	10	10	10
	10	10	10
Preferred Electives:			
Ed. 35–a, 36–b, 37–c or			
Ed. 42–a, 43–b, ‡44–c	10	10	10
Free Electives	20	20	20
	50	50	50

Education 41–a–b–c should be elected for one term instead of the above listed courses.

* Foreign Language or Mathematics may be elected for two terms in lieu of this course.

† Physical Education 1–a, 2–b, 3–c, and 13–a for women.

‡ Required for a N. H. State Secondary Certificate.

§ Physical Education 4–a, 5–b, 6–c for women.

‖ See General Liberal Arts Course.

PRE-LAW COURSE

Freshman Year

	Fall Term ("*a*")	*Winter Term* ("*b*")	*Spring Term* ("*c*")
Convocation	1	1	1
Eng. 1.5–a, 2.5–b, 3.5–c (*English Reading*)	9	9	9
Mil. Sci. 1–a, 2–b, 3–c (*Military Science*)	5	5	5
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	2	2	2
†Lang.-Fr. or Ger. 1–a, 2–b, 3–c	9	9	9
Science: Zoöl., 1–a, 2–b, 3–c, Chem. 7–a, 8–b, 9–c, Bot. 1–a, 2–b, 3–c, Math. 101–a, 102–b, 103–c	7–10	7–10	7–10
Soc. Sci. 1–a, 2–b, 3–c	9	9	9
Hist. 101–a, 102–b, 103–c	9	9	9
	51	51	51

Sophomore Year

Convocation	1	1	1
Eng. 4–a, 5–b, 6–c	9	9	9
Phys. Ed. 54–a, 55–b, 56–c	2	2	2
Mil. Sci. 4–a, 5–b, 6–c	5	5	5
Pol. Sci. 101–a, 102–b, 103–c	6	6	6
Pol. Sci. 104–a, 105–b, 106–c	9	9	9
Science: Zoöl. 1–a, 2–b, 3–c, Chem. 7–a, 8–b, 9–c, Phys. 1–a, 2–b. 3–c, Bot. 1–a, 2–b, 3–c, Math. 101–a, 102–b, 103–c, and Geol. 1–a, 2–b, 3–c	7–10	7–10	7–10
Electives:			
Psy. 21–a, 22–b, 23–c	10	10	10
Econ. 1–a, 2–b, 3–c	9	9	9
Soc. 14–a, 15–b, 16–c	9	9	9
Soc. 21–b		9	
	50	50	50

Junior Year

Convocation	1	1	1
Pol. Sci. 113–a, 114–b, 115–c	9	9	9
*Eng. 61–a, 62–b, 60–c	7½		7½
Hist. 104–a, 105–b, 106–c	8	8	8
Science: Group II, see general Liberal Arts Course	9	9	9
Electives:			
Major Course Requirements	9	9	9
Phil. 21–a, 22–b, 23–c	10	10	10
	50	50	50

Senior Year

Hist. 121–a, 122–b, 123–c	9	9	9
Pol. Sci. 118–c			8
Pol. Sci. 122–a, 123–b, 124–c	4	4	4
Elective Major Course Requirements	9	9	9
Free Electives	28	28	28
	50	50	50

* Recommended elective.
† Students presenting two years of a language should enroll for 4–a, 5–b, 6–c.

PROFESSIONAL COURSE IN PHYSICAL EDUCATION FOR WOMEN

Freshman Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Convocation	1	1	1
Eng. 1.5–a, 2.5–b, 3.5–c	9	9	9
†Lang. Fr., German, Sp., 1–a, 2–b, 3–6	9	9	9
Zoöl. 1–a	7		
Zoöl. 4–a	3		
Soc. Sci. 1–a, 2–b, 3–c	9	9	9
Sci. Sur. 1–a, 2–b, 3–c	2	2	2
Chem. 13–a, 14–b, 15–c	7½	7½	7½
Phys. Ed. 1.5–a, 2.5–b, 3.5–c	4	4	4
Phys. Ed. 13–a	2		
Preferred Elective: Education 11–b, c	0	7½	7½
	53½	49	49

Sophomore Year

Convocation	1	1	1
Eng. 4–a, 5–b, 6–c	9	9	9
Zoöl. 33–a, 34–b, 35–c	7	7	7
Psy. 21–a, 22–b, 47–c	10	10	10
Ed. 21–a, 22–b, 23–c	10	10	10
Agr. Chem. 1–a, 23–b	8	8	
H. E. 63–c			6
Phys. Ed. 14–a, 15–b, 16–c	4	4	4
Phys. Ed. 4.5–a, 5.5–b, 6.5–c	4	4	4
	53	53	51

Junior Year

Convocation	1	1	1
Zoöl. 13–a, 14–b, 15–c	7	7	7
Eng. 60–c			7½
Music 104–a, 105–b, 106–c	4	4	4
Ed. 39–b		9	
Ed. 33–c			10
Ed. 31–a	10		
Phys. Ed. 17–b, 19–c		6	6
Phys. Ed. 18–a	6		
Phys. Ed. 20–a, 21–b, 22–c	2	2	2
Phys. Ed. 23–a, 24–b, 25–c	4	4	4
Phys. Ed. 7.5–a, 8.5–b, 9.5–c	4	4	4
Zoöl. 28–c			3
Electives	12	13	
	50	50	48½

Senior Year

Ed. 43–b		10	
Ed. 32–b		10	
Ed. 40–c			10
Zoöl. 42–a, 43–b, 44–c	12	12	12
Soc. 28–c			6
Soc. 17–a	9		
Phys. Ed. 26–a, 27–b, 28–c	4	4	4
Phys. Ed. 29–a, 30–b, 31–c	3	3	3
Phys. Ed. 32–a, 33–b, 34–c	3	3	3
Phys. Ed. 35–a, 36–b, 37–c	6	6	6
Phys. Ed. 10.5–a, 11.5–b, 12.5–c	4	4	4
Phys. Ed. 38–c			4
Elective	9	0	
	50	52	52

† Students presenting two years of a language should enroll for 4–a, 5–b, 6–c.

COLLEGE OF TECHNOLOGY

GEORGE W. CASE, *Dean*

DEPARTMENTS

ARCHITECTURE
CHEMISTRY
CIVIL ENGINEERING
ELECTRICAL ENGINEERING
MATHEMATICS
MECHANICAL ENGINEERING
PHYSICS

The College of Technology offers the following four-year courses:

Architectural Course.—This course is planned to prepare its graduates for immediate usefulness in the profession of architecture and, while it is highly technical, it does not overlook the need of the professional man for a broad cultural background.

Except for the freshman year, the work in design is based on the programs issued by the Beaux Arts Institute of Design in New York City. This plan insures the maintenance of high scholarship, since the student's work is competitive not only with that of the other students in the department, but also with the work of students in other schools of architecture in the country.

A booklet, descriptive of the work of the department, will be sent to prospective students interested in architecture. Address your request to "Department of Architecture, University of New Hampshire, Durham, N. H."

Chemical Engineering Course.—This course is intended to fit the student for the career of a professional chemist, and to give a good foundation for original and independent chemical research.

Instruction is imparted by lectures, recitations and a large amount of carefully supervised laboratory work. The laboratory study is largely an individual one, and the work of each student is conducted with reference not only to the particular object he may have in view, but also to the acquirement of a broad knowledge of chemical science. The student is given a thorough training in German and French to enable him to read with ease the chemical literature; a thorough grounding in mathematics, necessary for advanced theoretical chemistry or chemical engineering; a somewhat limited amount of special work in both mechanical and electrical engineering and a thorough undergraduate training in theoretical and applied chemistry. He is encouraged to develop the

power of solving chemical problems by independent thought through the aid of the reference library and chemical periodicals.

Civil Engineering Course.—This course is designed to give the student the groundwork of the broad field of civil engineering. About equal emphasis is placed upon highway, hydraulic, sanitary and structural engineering. The sophomore and junior years contain four terms; fall, winter, spring and summer. The first three terms in both years are devoted to regular class work. The summer term of the sophomore year is for actual employment in surveying and that of the junior year for construction work. The student is under the general supervision of a member of the faculty during these periods of employment. This work, including a report, is required for graduation.

Electrical Engineering Course.—The electrical engineering course is intended to meet the demands of young men fitting themselves for professional engineering in connection with the various applications of electricity.

By means of lectures, recitations and laboratory work, the subjects of the course are brought to the attention of the student in such a manner as not only to emphasize the present needs of the practitioner and engineer, but to give him the principles that will enable him to grasp and understand the constantly increasing number of new problems that require solution.

Mechanical Engineering Course.—The mechanical engineering course is intended to train young men for positions of responsibility in the field of the mechanical industries and designed to fit them socially for their proper place in the world. The studies in the course are scientific, including mathematics, physics and chemistry; technical, including drawing, shop work, thermodynamics, hydraulics, machine design, electrical engineering, power engineering; and cultural, including English, history, psychology and astronomy.

Instruction is given by means of recitations, lectures and laboratory work supplemented by illustrated lectures and assigned reading. Throughout the course the theoretical work is supplemented by actual practice in mechanical operation and scientific research, by training in the use of tools for working wood and metals, and by experimental tests and demonstrations in the mechanical, electrical, chemical and physical laboratories.

Industrial Engineering.—This line of study, which is an option in Mechanical Engineering, is designed to train students for positions in the

production and commercial departments of industry. The course is well balanced in basic sciences, engineering, economics, history, psychology and in addition to the work at the University the student is placed in actual employment in industry, under the general supervision of a member of the faculty. This employment, which is scheduled in the curriculum as coöperative work and on which a report is required, is a requirement for graduation.

Industrial Teacher Training.—This line of work is an option in the senior year for Mechanical and Electrical Engineering students especially adapted to teaching. The educational subjects given in this course are designed to prepare for Smith-Hughes teaching positions.

Concerns Furnishing Coöperative Work to Technology Students.

Acme Knitting Machine & Needle Co., Franklin, N. H.
Amos D. Bridges Sons Company, Hartford, Conn.
Amoskeag Manufacturing Company, Manchester, N. H.
Brown Company, Berlin, N. H.
Franklin Mills, Franklin, N. H.
Nashua Manufacturing Company, Nashua, N. H.
New York, New Haven & Hartford R. R. Co., Readville, Mass., and Van Nest, N. Y.
Parker Young Company, Lincoln, N. H.
Scott & Williams Company, Laconia, N. H.
State Highway Department, Concord, N. H.
Sullivan Machinery Company, Claremont, N. H.
Sulloway Mfg. Company, Franklin, N. H.

ARCHITECTURE

Freshman Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Math. 201–a (*Unified Mathematics*)	12		
Chem. 1–a (*Inorganic Chemistry*)	7½		
Eng. 1–a, 2–b, 3–c (*English Composition*)	7½	7½	7½
Math. 1–b, 4–c (*Trigonometry and Analytical Geometry*)		7½	7½
M. E. 1–a (*Engineering Drawing*)	6		
M. E. 10–a, or 16–a (*Wood Shop or Forge*)	7½		
Sci. Sur. 1–a, 2–b, 3–c (*Survey of Science*)	2	2	2
Mil. Sci. 18–a, 19–b, 20–c (*Military Science*)	5	5	5
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	2	2	2
Arch. 6–b, 7–c (*Graphics*)		5	5
Arch. 11–b, 12–c (*Elements of Architecture*)		5	5
Arch. 2–b, 3–c (*Introduction to Architecture*)		2½	2½
Art 21–b, 22–c (*Color and Rendering*)		5	5
Hist. 128–b, 129–c (*History*)		8	8
Convocation	1	1	1
	50½	50½	50½

Sophomore Year

Art 10–a, 11–b, 12–c (*Freehand Drawing*)	6	6	6
Arch. 50–a, 51–b, 52–c (*Architectural Design*)	16	16	16
Hist. 114–a, 130–b, 115–c (*History*)	9	9	9
Phys. 1–a, 2–b, 3–c (*General Physics*)	8	8	8
Phys. 28–b, 29–c (*Physics Laboratory*)		5½	5½
Geol. 100–a (*Clay Products and Building Stones*)	5		
Mil. Sci. 21–a, 22–b, 23–c (*Military Science*)	5	5	5
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	2	2	2
Convocation	1	1	1
	52	52½	52½

Junior Year

Arch. 30–a, 31–b, 32–c (*Materials of Construction*)	7½	7½	7½
Arch. 53–a, 54–b, 55–c (*Architectural Design*)	16½	16½	16½
Arch. 39–a (*Building Sanitation*)	2½		
E. E. 100–c (*Elements of Electricity*)			7½
C. E. 5–a (*Surveying*)	7½		
M. E. 79–b (*Heating and Ventilating*)		7½	
M. E. 49–a, 50–b, 51–c (*Mechanics*)	7½	7½	7½
Convocation	1	1	1
Elective	7½	10	10
	50	50	50

Senior Year

Arch. 33–a, 34–b, 35–c (*Building Construction*)	7	7	7
Arch. 56–a, 57–b, 58–c (*Architectural Design*)	17	17	17
Arch. 23–a, 25–c (*Domestic Architecture*)	6		4
Arch. 41–b (*Professional Relations*)		5	
Art 13–a, 14–b, 15–c (*Freehand Drawing*)	5	5	5
C. E. 85–c (*Specifications*)			2½
Econ. 131–a, 132–b, 133–c (*Accounting and Bookkeeping*)	7½	7½	7½
M. E. 12–c (*Wood Shop*)			2½
Convocation	1	1	1
Elective	7½	7½	7½
	51	50	51½

TECHNOLOGY COURSE IN CHEMISTRY

Freshman Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Eng. 1–a, 2–b, 3–c (*English Composition*)	7½	7½	7½
Math. 201–a, 202–b, 203–b (*Unified Mathematics*)	12	12	12
Chem. 1–a, 2–b, 3–c (*Inorganic Chemistry*)	7½	10	10
Chem. 22–c (*Qual. Anal.*)			7½
M. E. 1–a (*Engineering Drawing*)	6		
M. E. 10–a or 16–a (*Wood or Forge Work*)	7½		
M. E. 30–c (*Machine Work*)			5
Geol. 20–b (*General Geology*)		8	
Sci. Sur. 1–a, 2–b, 3–c	2	2	2
Mil. Sci. 18–a, 19–b, 20–c (*Military Science*)	5	5	5
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	2	2	2
Convocation	1	1	1
	50½	47½	52

Sophomore Year

Chem. 23–a (*Qualitative Analysis*)	7½		
Chem. 40–a, 41–b, 42–c (*Organic Chemistry*)	5	7½	7½
Chem. 43–b, 44–c (*Organic Chemistry Laboratory*)		5	5
Chem. 28–b, 29–c (*Quantitative Analysis*)		8½	8½
Math. 7–a, 8–b, 9–c (*Calculus*)	7	7	7
Phys. 6–a, 7–b, 8–c (*Physics*)	8½	8½	8½
Phys. 9–a, 10–b, 11–c (*Physics Laboratory*)	11	10	10
Mil. Sci. 21–a, 22–b, 23–c (*Military Science*)	5	5	5
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	2	2	2
Convocation	1	1	1
	47½	54½	54½

Junior Year

Chem. 30–a, 31–b, 32–c (*Quantitative Analysis*)	16	16	12
Chem. 60–a, 61–b, 62–c (*Physical Chemistry*)	7½	7½	7½
Chem. 64–b, 65–c (*Physical Chemistry Laboratory*)		7	7
Chem. 80–a, 81–b, or 82–c (*Advanced Inorganic Chemistry*) or Chem. 52–a, 53–b, 54–c (*Advanced Organic Chemistry*)	7½	7½	7½
M. E. 46–a, 47–b, 48–c (*Mechanics*)	10	10	10
Ger. 1–a, 2–b, 3–c (*German*) or Mil. Sci. 24–a, 25–b, 26–c (*Coast Artillery*) or Approved Elective	7½	7½	7½
Convocation	1	1	1
	49½	56½	52½

Senior Year

Chem. 110–a, 111–b, 112–c (*Industrial Chemistry*)	7½	7½	7½
Chem. 133–a, 134–b, 135–c (*Thesis*)	17½	17½	17½
Chem. 130–a, 131–b, 132–c (*Seminar*)	2½	2½	2½
E. E. 15–a, 16–b (*Industrial Electricity*)	7½	7½	
M. E. 66–b, 67–c (*Thermodynamics*)		7½	7½
Ger. 4–a, 5–b, 6–c (*German*) or Mil. Sci. 27–a, 28–b, 29–c (*Coast Artillery*) or Approved Elective	8½	8½	8½
	44½	51	43½

CIVIL, ELECTRICAL AND MECHANICAL ENGINEERING

Freshman Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Math. 201–a, 202–b, 203–c (*Unified Mathematics*)	12	12	12
Chem. 1–a, 5–b, 6–c (*Inorganic Chemistry*)	7½	7½	7½
Eng. 1–a, 2–b, 3–c (*English Composition*)	7½	7½	7½
M. E. 1–a (*Engineering Drawing*)	6		
M. E. 2–b, 3–c (*Descriptive Geometry*)		6	6
Shop 10–a or 16–a (*Wood or Forge Work*)	7½		
Shop 11–b or 17–b (*Wood or Forge Work*)		7½	
C. E. 1–c (*Surveying*)			7½
Sci. Sur. 1–a, 2–b, 3–c (*Science Survey*)	2	2	2
Mil. Sci. 18–a, 19–b, 20–c (*Military Science*)	5	5	5
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	2	2	2
Convocation	1	1	1
	50½	50½	50½

Civil Engineering

Sophomore Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*	*Summer Term ("s")*
Math. 7–a, 8–b, 9–c (*Calculus*)	7	7	7	
Econ. 101–a, 102–b (*Principles of Economics*)	7½	7½		
Phys. 6–a, 7–b, 8–c (*Physics*)	8½	8½	8½	
Phys. 9–a, 10–b, 11–c (*Physics Laboratory*)	11	10	10	
C. E. 2–a (*Topographical Surveying*)	6			
C. E. 3–b (*Topographical Drawing*)		5		
C. E. 4–c (*Railway Curves*)			5	
C. E. 20–c (*Highway Location*)			7½	
C. E. 8–b (*Engineering Astronomy*)		5		
Mil. Sci. 21–a, 22–b, 23–c (*Military Science*)	5	5	5	
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	2	2	2	
Convocation	1	1	1	
C. E. 93–s (*Coöperative Work*)				Regular Working Hours
	48	51	46	

Junior Year

E. E. 25–a, 26–b, 27–c (*Electrical Machinery*)	11	11	11	
M. E. 43–a, 44–b, 45–c (*Applied Mechanics*)	10	10	10	
M. E. 52–a, 53–c (*Testing Materials Laboratories*)	2½		5	
C. E. 21–a (*Highway Location*)	5			
C. E. 22–b (*Highway Materials*)		5		
C. E. 60–a, 61–b, 62–c (*Stresses*)	10	10	10	
C. E. 41–b, 42–c (*Hydraulics*)		7	7	
C. E. 80–a, 81–b, 82–c (*A. S. C. E.*)	1½	1½	1½	
Mil. Sci. 24–a (*Military Science*) or Met. 1–a (*Meteorology*)	7½			
Mil. Sci. 25–b (*Military Science*) or M. E. 104–b (*Personnel Administration*)		7½		
Mil. Sci. 26–c (*Military Science*) or Ed. 30–c			7½	
C. E. 94–s (*Coöperative Work*)				Regular Working Hours
	47½	52	52	

Senior Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
C. E. 23–a, 24–b, 25–c (*Economics of Highway Design*)	5	5	5
C. E. 26–a, 27–b, 28–c (*Motor Transportation*)	5	5	5
C. E. 49–a, 50–b, 51–c (*Hydraulic Engineering*)	5	5	5
M. E. 61–a, 62–b, 63–c (*Heat Power Engineering*)	5	5	5
C. E. 63–a (*Bridge Design*)	10		
C. E. 64–b (*Building Design*)		10	
C. E. 65–c (*Concrete Structures*)			10
C. E. 45–a (*Water Supply*)	5		
C. E. 47–b (*Sewerage*)		5	
C. E. 46–b (*Water Purification*)		5	
C. E. 48–c (*Sewage Disposal*)			5
C. E. 83–a, 84–b, 85–c (*A. S. C. E.*)	1½	1½	1½
C. E. 90–a, 91–b, 92–c (*Thesis*)	5	5	5
Mil. Sci. 27–a (*Military Science*) or Econ. 104–a (*Economic History of Working Classes*)	7½		
Mil. Sci. 28–b (*Military Science*) or Econ. 105–b (*Business Administration and Finance*)		7½	
Mil. Sci. 29–c (*Military Science*) or Econ. 106–c (*Commercial Law*) and C. E. 85–c (*Specifications*)			7½
	49	54	49

Electrical Engineering

Sophomore Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Math. 7–a, 8–b, 9–c (*Calculus*)	7	7	7
Phys. 6–a, 7–b, 8–c (*Physics*)	8½	8½	8½
Phys. 9–a, 10–b, 11–c (*Physics Laboratory*)	11	10	10
E. E. 31–a, 32–b, 33–c (*Electrical Laboratory*)	2	2	2
Chem. 21–b (*Qualitative Analysis Laboratory*)		6	
Math. 121–c (*Astronomy*)			3½
M. E. 56–c (*Kinematics*)			7
M. E. 4–a, 5–b (*Machine Drawing*)	5	5	
M. E. 20–a, 21–b (*Machine Shop*)	7½	7½	
Mil. Sci. 21–a, 22–b, 23–c (*Military Science*)	5	5	5
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	2	2	2
Convocation	1	1	1
	49	54	46

Junior Year

E. E. 37–a, 38–b, 39–c (*Electrical Problems*)	5	2½	5
E. E. 1–a, 2–b, 3–c (*Dynamo Electric Machinery*)	9	9	9
E. E. 28–a, 29–b, 30–c (*Electrical Laboratory*)	5	5	5
M. E. 43–a, 44–b, 45–c (*Mechanics*)	10	10	10
M. E. 64–a, 65–b (*Thermodynamics*)	7½	7½	
M. E. 68–a, 69–b, 53–c (*Mechanical Laboratory*)	5	5	5
Educ. 30–c (*Applied Psychology*)			7½
E. E. 41–a, 42–b, 43–c (*Student Branch of A. I. E. E.*)	1½	1½	1½
Econ. 104–a (*Economic History of the Working Classes*)	7½		
Econ. 105–b (*Business Administration and Finance*)		7½	
Econ. 106–c (*Law of Contracts*)			5
C. E. 85–c (*Specifications*)			2½
Mil. Sci. 24–a, 25–b, 26–c (*Military Science*)			
Convocation	1	1	1
	51½	49	51½

SENIOR YEAR

	Fall Term ("a")	Winter Term ("b")	Spring Term ("c")
E. E. 7–a, 8–b, 9–c (*Electrical Engineering Practice*)	9	9	9
E. E. 11–a, 12–b, 13–c (*Electrical Laboratory*)	10	10	10
E. E. 19–a (*Illumination Engineering*)	6		
E. E. 4–b (*Wire and Radio Communication*)		7½	
E. E. 5–c (*Radio Circuits and Applications*)			5
E. E. 10–b (*Electric Railways*)		4	
E. E. 20–a (*Electrical Problems*)	4		
E. E. 21–c (*Theory of Electrical Circuits*)			10
E. E. 22–a, 23–b, 24–c (*Thesis*)	4	4	4
E. E. 44–a, 45–b, 46–c (*Student Branch of A. I. E. E.*)	1½	1½	1½
Phys. 15–a (*Theory of Electrons*)	7		
M. E. 74–a, 75–b, 75.5–c (*Power Plant Engineering*)	5	5	5
C. E. 43–b, 44–c (*Hydraulics*)		7½	5
†Mil. Sci. 27–a, 28–b, 29–c (*Military Science*)			
Convocation	1	1	1
	47½	49½	50½

†Students electing Military Science 27–a, 28–b, 29–c are not required to enroll in Physics 15–a, E. E. 10–b and E. E. 21–c.

Mechanical Engineering

SOPHOMORE YEAR

	Fall Term ("a")	Winter Term ("b")	Spring Term ("c")
Math. 7–a, 8–b, 9–c (*Calculus*)	7	7	7
Phys. 6–a, 7–b, 8–c (*Physics*)	8½	8½	8½
Phys. 9–a, 10–b, 11–c (*Physics Laboratory*)	11	10	10
M. E. 56–c (*Kinematics*)			7
Chem. 21–b (*Qualitative Analysis Laboratory*)		6	
Math. 121–c (*General Astronomy*)			3½
M. E. 4–a, 5–b (*Machine Drawing*)	5	5	
M. E. 40–a, 41–b, 42–c (*Mechanical Laboratory*)	2	2	2
M. E. 20–a, 21–b (*Machine Work*)	7½	7½	
Mil. Sci. 21–a, 22–b, 23–c (*Military Science*)	5	5	5
Phys. Ed. 54–a, 55–b, 56–c (*Physical Education*)	2	2	2
Convocation	1	1	1
	49	54	46

JUNIOR YEAR

E. E. 25–a, 26–b, 27–c (*Electrical Machinery*)	11	11	11
M. E. 43–a, 44–b, 45–c (*Mechanics*)	10	10	10
M. E. 64–a, 65–b, 65.5–c (*Thermodynamics*)	7½	7½	7½
M. E. 109–a (*Industrial Management*)	7½		
Ed. 30–c (*Applied Psychology*)			7½
M. E. 68–a, 69–b, 53–c (*Mechanical Laboratory*)	5	5	5
M. E. 57–b (*Valve Gears*)		5	
M. E. 82–a, 83–b, 84–c (*A. S. M. E.*)	1½	1½	1½
Mil. Sci. 24–a (*Military Science*) or Econ. 104–a (*Economic History of Working Classes*)	7½		
Mil. Sci. 25–b (*Military Science*) or Econ. 105–b (*Business Administration and Finance*)		7½	
Mil. Sci. 26–c (*Military Science*) or Econ. 106–c (*Law of Contracts*) and C. E. 85–c (*Specifications*)			5 2½
Convocation	1	1	1
	51	48½	51

Senior Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
M. E. 74–a, 75–b, 75.5–c (*Power Plants*)	5	5	5
M. E. 58–a, 59–b, 60–c (*Machine Design*)	7½	7½	7½
M. E. 55–a, 72–b, 73–c (*Mechanical Laboratory*)	5	7½	7½
M. E. 54–a (*Manufacture of Brass and Steel*)	5		
M. E. 112–a (*Materials Handling*)	7½		
C. E. 43–b, 44–c (*Hydraulics*)		7½	5
M. E. 79–c (*Heating and Ventilating*)			7½
C. E. 26–a, 27–b, 28–c (*Motor Transportation*)	5	5	5
M. E. 85–a, 86–b, 87–c (*A. S. M. E.*)	1½	1½	1½
M. E. 89–a, 90–b, 91–c (*Thesis*)	6	6	6
Mil. Sci. 27–a, 28–b, 29–c (*Military Science*) or M. E. 76–a, 77–b, 78–c (*Automotive Engineering*)	7½	7½	7½
	50	47½	52½

INDUSTRIAL ENGINEERING

Freshman Year

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*	*Summer Term ("s")*
Eng. 1–a, 2–b, 3–c (*English Composition*)	7½	7½	7½	
Chem. 1–a, 5–b, 6–c (*Inorganic Chemistry*)	7½	7½	7½	
Math. 201–a, 202–b, 203–c (*Unified Mathematics*)	12	12	12	
M. E. 1–a (*Engineering Drawing*)	6			
M. E. 2–b, 3–c (*Descriptive Geometry*)		6	6	
Shop 10–a or 16–a (*Wood or Forge Work*)	7½			
Shop 10–a or 16–a (*Wood or Forge Work*)		7½		
C. E. 1–a (*Surveying*)			7½	
Sci. Sur. 1–a, 2–b, 3–c (*Science Survey*)	2	2	2	
Mil. Sci. 18–a, 19–b, 20–c (*Military Science*)	5	5	5	
Phys. Ed. 51–a, 52–b, 53–c (*Physical Education*)	2	2	2	
Convocation	1	1	1	
M. E. 100–s (*Coöperative Work*)				Regular Working Hours
	50½	50½	50½	

Sophomore Year

Math. 7–a, 8–b (*Calculus*)	7	7		
Econ. 101–a, 102–b (*Elementary Economics*)	7½	7½		
Phys. 6–a, 7–b (*Physics*)	8½	8½		
Phys. 9–a, 10–b (*Physics Laboratory*)	11	10		
M. E. 20–a, 21–b (*Machine Shop*)	7½	7½		
Mil. Sci. 21–a, 22–b (*Military Science*)	5	5		
Phys. Ed. 54–a, 55–b (*Physical Education*)	2	2		
Convocation	1	1		
M. E. 101–c, 102–s (*Coöperative Work*)			Regular Working Hours	Regular Working Hours
	49½	48½		

JUNIOR YEAR

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*	
E. E. 25–a, 26–b, 27–c (*Electrical Machinery*)	11	11	11	
M. E. 46–a, 47–b, 48–c (*Mechanics*)	10	10	10	
M. E. 4–a (*Machine Drawing*)	5			
M. E. 66–b, 67–c (*Thermodynamics*)		7½	7½	
M. E. 109–a, 110–b, 111–c (*Industrial Management*)	7½	7½	7½	
Math. 23–a, 24–b, 25–c (*Mathematics of Finance and Statistics*)	6	6	6	
M. E. 82–a, 83–b, 84–c (*A. S. M. E.*)	1½	1½	1½	
Mil. Sci. 21–a, 22–b, 23–c (*Military Science*) or Acct. 131–a, 132–b, 133–c (*Elements of Accounts*)	7½	7½	7½	
Convocation	1	1	1	
M. E. 103–s (*Coöperative Work*)				Regular Working Hours
	49½	52	52	

SENIOR YEAR

M. E. 74–a, 75–b, 75.5–c (*Power Plants*)		5	5	5
M. E. 70–a, 71–b, 73–c (*Mechanical Laboratory*)		7½	7½	7½
C. E. 26–a, 27–b, 28–c (*Motor Transportation*)		5	5	5
C. E. 43–b, 44–c (*Hydraulics*)			7½	5
M. E. 105–a, 106–b, 107–c (*Industrial Problems*)		5	5	5
M. E. 112–a (*Materials Handling*)		7½		
M. E. 104–b (*Personnel Administration*)			7½	
M. E. 108–c (*Industrial Problems*)				7½
M. E. 54–a (*Manufacture of Iron and Steel*)		5		
M. E. 85–a, 86–b, 87–c (*A. S. M. E.*)		1½	1½	1½
Mil. Sci. 27–a (*Military Science*) or Econ. 104–a (*Economic History of Working Classes*)		7½		
Mil. Sci. 28–b (*Military Science*) or Econ. 105–b (*Business Administration and Finance*)			7½	
Mil. Sci. 29–c (*Military Science*) or Econ. 106–c (*Law of Contracts*) and C. E. 85–c (*Specifications*)				7½
M. E. 89–a, 90–b, 91–c (*Thesis*)		5	5	5
		49	51½	49

INDUSTRIAL TEACHER TRAINING COURSE

Senior Option for Electrical and Mechanical Engineering students:

	Fall Term ("a")	*Winter Term ("b")*	*Spring Term ("c")*
Ed. 20–a (*History and Principles of Vocational Education*)	9		
Ed. 27–b (*School Hygiene*)		9	
Ed. 40–c (*Special Methods in Industrial Education*)			9
Soc. 17–a (*Social Psychology*)	9		
Ed. 14–b (*Secondary Education*)		9	
Ed. 15–c (*Classroom Management and Methods*)			9
Psy. 8–a (*Applied Psychology in Vocational Education*)	9		
Psy. 9–b (*Psychology of Adolescence*)		9	
Ed. 41–c (*Supervised Teaching in Industrial Education*)			18½
M. E. 24–a, 25–b (*Machine Shop*)	5	5	
M. E. 18–a (*Forge Shop*)	5		
M. E. 14–b (*Wood Shop*)		5	
M. E. 89–a, 90–b, 91–c (*Thesis*)	5	5	5
Mil. Sci. 27–a, 28–b, 29–c (*Military Science*) or Ed. 50–a (*School Administration*) and Ed. 13–b (*History of Education*) and Ed. 42–c (*Supervised Teaching in Industrial Education*)	7½	7½	7½
	49½	49½	49

SUMMER SCHOOL

The University of New Hampshire Summer School (the sixth session of which will be held from June 25 to August 3, 1928) offers courses in most departments of all three colleges. The Summer School is designed to meet the needs of:

1. Teachers, superintendents and supervisors of secondary schools.
2. Students in the University of New Hampshire and in other colleges who desire to utilize the vacation period for the purpose of anticipating courses or supplying deficiencies.
3. Graduate students, who may earn the degree of Master of Arts or Master of Science for work done exclusively during summer sessions.
4. Candidates for admission to any of the colleges of the University who desire to obtain advanced standing or to complete some special requirement for admission.

For Summer School Bulletin, information as to particular courses, etc., address the Director of the Summer School, University of New Hampshire, Durham, N H.

EXTENSION COURSES FOR UNIVERSITY CREDIT

In response to the insistent demand of the teachers of the state the Trustees of the University have approved the giving of extension courses for university credit. Professors are sent out to centers within the state where there is a demand for classes to be formed. At present the courses offered will depend on the teaching schedules of the various departments.

DESCRIPTION OF SUBJECTS

(Alphabetically Arranged)

The title of each subject is given in black face type. The numeral designates the particular subject; and the letter (a, b, or c) designates the term in which the subject is given. The letter "a" indicates that a subject is given the first term; "b" the second term; and "c" the third term. A combination of the letters (a–b, b–c, or a–b–c) attached to a numeral indicates that the subject is given through the terms represented by the letters.

Following the title of each subject is the description of the work given, and the name of the instructor.

The next paragraph gives the following information in the order indicated: (1) prerequisites, if any; (2) in what courses the subject is required and the undergraduate year in which it should be taken; (3) the number of hours of recitations, preparation, or laboratory periods required a week; (4) the number of units the subject will count towards graduation. Lectures and recitations are fifty minutes in length. Laboratory periods are two and one-half hours in length.

All subjects unless otherwise noted are open to students who have passed the prerequisites.

An elective subject will be given only when there is a minimum of five students registered for the same.

ACCOUNTING

(See Economics)

AGRICULTURAL AND BIOLOGICAL CHEMISTRY

THOMAS G. PHILLIPS, *Professor*
STANLEY R. SHIMER, *Instructor*
DONALD E. FREAR, *Graduate Assistant*

Minor: 48 units in Agricultural Chemistry following at least 22 units in General Chemistry.

1–a. **Agricultural Chemistry.** A study of the chemistry of the carbon compounds, with special emphasis upon those of most importance in agriculture. The laboratory includes some methods of quantitative analysis. Mr. Shimer and Mr. Frear.

Prerequisite: Chemistry 12–c or 15–c. Required of Sophomores in Agriculture and Home Economics. Elective for students in Liberal Arts. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 8 units.

2–b. **Agricultural Chemistry.** Some general principles of biological chemistry and the special chemistry of plant growth and development, including the factors affecting plant growth, such as light, air, water, soil and fertilizers. Mr. Phillips and Mr. Frear.

Prerequisite: Agricultural Chemistry 1–a. Required of Sophomores in Agriculture. Elective for students in Liberal Arts. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 8 units.

3–c. Agricultural Chemistry. The chemistry of foods and animal nutrition. Mr. Phillips and Mr. Frear.

Prerequisite: Agricultural Chemistry 2–b. Required of Sophomores in Agriculture. Elective for students in Liberal Arts. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 8 units.

4–b. Physiological Chemistry. The chemistry of animal physiology, including the chemistry of carbohydrates, proteins, fats, the cell, enzyme action, digestion, absorption, metabolism and excretion. Mr. Shimer.

Prerequisite: Agricultural Chemistry 3–c or equivalent preparation in organic chemistry and quantitative analysis. Required of students in Animal Husbandry, Dairy Husbandry and Agricultural Chemistry. Elective for students in Liberal Arts and Agriculture. Given only in alternate years beginning with 1929–30. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 8 units.

5–c. Physiological Chemistry. The qualitative and quantitative examination of blood and urine. Mr. Shimer.

Prerequisite: Agricultural Chemistry 4–b. Required of Seniors in Agricultural Chemistry. Elective for other students. Given only in alternate years beginning with 1929–30. Lec., 1 hr.; lab., 5 hrs.; prep., 2 hrs.; 8 units.

6–a. Plant Chemistry. A more advanced study of the chemistry of plant growth and development and of the factors affecting plant growth. Mr. Phillips.

Prerequisite: Agricultural Chemistry 3–c or equivalent preparation in organic chemistry and quantitative analysis. Required of students in Agricultural Chemistry. Elective for others. Given only in alternate years beginning with 1928–29. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 8 units.

7–a, 8–b, 9–c. Agricultural Analysis. A study of the methods of analysis of fertilizers, feeding-stuffs and other products important in Agriculture. Mr. Phillips and Mr. Shimer.

Prerequisites: At least 15 units in Quantitative Analysis and 20 units in Organic Chemistry. Required of students in Agricultural Chemistry. Elective for Chemistry students and for others having the prerequisites. Lab., 8 hrs.; prep., 2 hrs.; 10 units.

19–c. **Dairy Chemistry.** A study of the chemistry and methods of analysis of milk and other dairy products. Mr. Shimer.

Prerequisite: Agricultural Chemistry 3–c or equivalent preparation in organic chemistry and quantitative analysis. Required of Dairy Husbandry students. Elective for others. Given only in alternate years beginning with 1926–27. Lec., 1 hr.; lab., 5 hrs.; prep., 2 hrs.; 8 units.

23–b. **Physiological Chemistry.** The chemistry of human physiology, including enzyme action, digestion, absorption and metabolism. Mr Shimer.

Prerequisite: Agricultural Chemistry 1–a. Required of Sophomores in Home Economics. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 8 units.

24–c. **Food Chemistry.** A study of the composition, properties, methods of analysis and detection of adulterants and preservatives of food materials. Mr. Shimer.

Prerequisite: Agricultural Chemistry 23–b. Required of Sophomores in Home Economics. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 8 units.

For subjects primarily for graduate students, see Catalog of the Graduate School.

AGRICULTURE

FREDERICK W. TAYLOR, *Professor*

1–b. **Survey of Agriculture.** A brief history of agriculture as a business and scientific profession in this country; a general discussion and survey of the various branches of agriculture and the opportunities for work which each affords. The subject is intended primarily to assist the student in selecting his technical subjects in the later years of his college course. Lectures on the several agricultural courses by the various heads of departments. Mr. Taylor.

Required of Freshmen in Agriculture. Lec., 1 hr.; prep., 1 hr.; 2 units.

2–b. **Extension Organization and Methods.** A brief history of the origin and development of extension work, in agriculture and home economics in the state and nation. Lectures on extension methods and practices. Actual demonstrations as put on in different parts of the state will be given by members of the resident and extension staff. Purpose of the subject is to furnish a good understanding of the nature of extension organization, its coöperative relationships, and especially extension methods and the results to be attained in the field.

Lec., 2 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 8 units. Subject to be given under the direction of J. C. Kendall, Director of Extension Work. Elective for Seniors in Agriculture and required of Seniors in Home Economics Extension Course.

3–c. **Supervised Extension Work.** During the third term of the senior year a limited number of students in agriculture and home economics with the approval of the Dean of the College and the Director of the Extension Service will be allowed to do supervised extension work in the state under the immediate direction of a member of the extension staff. At least twelve weeks will be devoted to this field work. Mr. Taylor and Mr. Kendall.

Prerequisite: Agriculture 2–b. Required of Seniors in Home Economics Extension Course. Field work, 50 units.

AGRICULTURAL ECONOMICS

1–a. **Agricultural Marketing.** This subject aims to acquaint the student with some of the fundamentals of the marketing service in the distribution of agricultural products. The importance of the marketing problem will be emphasized and the application of some of the economic principles studied. Mr. Eastman.

Elective for all students. Lec., 3 hrs.; prep., 5 hrs.; 8 units.

2–a. **Farm Management.** A subject dealing with the development of farming as a business; types of farming, size of farms, cropping systems, livestock problems, buying, selling, etc. Practical problems in working out factors of efficiency, balance, etc., will be given. Mr. Eastman.

Required of Seniors in Agriculture, except in Forestry. Lec., 2 hrs.; lab., 2 hrs.; prep., 7 hrs.; 11 units.

3–b. **Rural Economics.** A study of history and economy in the development of rural living, including an inquiry into the present utilization of agricultural resources. Mr. Eastman.

Required of Juniors in Agriculture, except in Forestry. Lec., 3 hrs.; prep., 6 hrs.; 9 units.

4–c. **Farm Records and Accounts.** Lectures, reference work and farm problems relating to the principles of accounting as applied to farm

records and farm cost accounts. Laboratory exercises will include sets of complete cost accounts taken from actual farms. Mr. Eastman.

Required of Juniors in certain courses. Lec., 1 hr.; lab., 2 hrs.; prep., 5 hrs.; 8 units.

AGRONOMY

FREDERICK W. TAYLOR, *Professor*
M. GALE EASTMAN, *Associate Professor*

1–a. **Agricultural Engineering.** Lectures and recitations upon the mapping of farms; fencing; drainage; farm sanitation; tillage and harvesting machinery; concrete construction; silos; farm motors; roads and principles of draft. Practical work in map making, laying out drains, rope splicing, comparing farm machines, etc. Mr. Taylor.

Required of Sophomores in Agriculture. Lec., 3 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 9 units.

2–a. **Forage Crops.** Text-books, lectures, and recitations covering the history, use, value, and methods of producing forage crops, including grasses, legumes, and roots. Practical work in judging and identifying in the field and in the laboratory. Mr. Eastman.

Required of Juniors in certain courses. Lec., 2 hrs.; lab., 2 hrs.; prep., 3 hrs.; 7 units.

3–b. **Cereal Crops.** Text-books, lectures, and recitations covering the history, use, value and methods of producing cereal crops. Laboratory work in identifying and judging grain plants and their products.

Practically all the common field crops, including potatoes, tobacco, etc., will be considered in 2–a and 3–b. Plants will be studied with particular reference to New England conditions, but their distribution in the United States or elsewhere will also be noted as a measure of their general adaptability. Important crops not grown in our section, like cotton and rice, will be briefly surveyed. Mr. Eastman.

Required of Juniors in certain courses. Lec., 2 hrs.; lab., 2 hrs.; prep., 3 hrs.; 7 units.

4–c. **Soils.** Text-book and recitations upon the formation, kinds and physical properties of soils; the movements and conservation of soil moisture; the relation of heat and air to soil; the nature and physical effects of tillage and fertilizers; laboratory work and experimentation with soils to show the physical effects of different conditions and texture. Mr. Taylor and Mr. Eastman.

Required of Sophomores in Agriculture. Lec., 3 hrs.; lab. 2½ hrs.; prep., 4½ hrs.; 10 units.

6–b. Fertilizers. Lectures, text-book and recitations upon the value, use and function of plant food materials, including manure, and upon the compounding and selecting of fertilizers. Mr. Taylor.

Prerequisite: Agricultural Chemistry 1–a. Required of Seniors in certain courses. Lec., 3 hrs.; prep., 5 hrs.; 8 units.

11–b, 12–c. Special Agronomy. Advanced work for students interested in some particular phase of agronomy. No class exercises. The hours and kind of work must be arranged with the department before the subject is elected. Mr. Taylor.

Prerequisites: Agronomy 1–a to 4–c inclusive. Elective for Seniors. Number of units to be arranged.

13–b. Repair of Farm Machinery. Practice work in the repair of farm implements and machinery, including the replacement of old pieces, babbitting of bearings, adjustment of parts, etc. Mr. Taylor.

Required of Teacher-Training Seniors. Lab., 2½ hrs.; prep., ½ hr.; 3 units.

14–b. Agricultural Seminar. Library and reference work, the preparation of bibliographies, a study of the work and history of agricultural colleges and experiment stations. Mr. Taylor.

Elective for Seniors in Agriculture. Rec., 1 hr.; prep., 2 hrs.; 3 units.

17–b. Seed Testing. A study of the official method of analyzing agricultural seeds for purity and germination, involving studies in the identification of seeds, as well as the technique of using equipment in weighing, germinating, counting, estimating, etc., for official reports.

Prerequisite: Botany 3–c. Elective for a very limited number of students. Hours arranged. Lab., 4 hrs.; prep., 2 hrs.; 6 units.

ANIMAL HUSBANDRY

JOHN C. MCNUTT, *Professor*
WALTER WISNICKY, *Instructor*
D. E. RUSK, *Assistant*

1–a. Types and Breeds of Livestock. A study of the different breeds of horses, cattle, sheep, and swine in respect to their origin, history, development, characteristics, and adaptability to different conditions of climate and soil. One afternoon each week is devoted to judging the different breeds. Mr. McNutt and Mr. Rusk.

Required of Freshmen in Agriculture. Lec., 3 hrs.; lab., 2 hrs.; prep., 3 hrs.; 8 units.

2–c. Livestock Judging. The work consists of a study of the principles and practice of judging horses, beef cattle, sheep, and swine, and of the market classes and grades of horses and meat animals.

For a part of the laboratory work, trips are taken to some of the best breeding establishments in New England. Mr. McNutt.

Prerequisite: Animal Husbandry 1–a. Required of Sophomores electing Animal Husbandry. Lab., 5 hrs.; 5 units.

3–a. Feeds and Feeding. A study of the character, composition, and digestibility of feed stuffs, and the methods of feeding different kinds of farm animals. Numerous samples of grains and by-products are used for the purpose of familiarizing the students with the different feed stuffs. Practice is given in calculating rations for various purposes. Mr. McNutt.

Required of Seniors in Animal Husbandry and Teacher Training courses. Lec., 3 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 10 units.

4–a. Anatomy of Farm Animals. Lectures and recitations upon the form and structure of the domesticated animals. Skeletons, various anatomical specimens, models, charts, and lantern slides are used to make the subject as practical as possible. The purposes of this subject are to show the relation between the skeleton and the form and function of the animal, and to serve as a foundation for the intelligent study of animal diseases and ailments. Dr. Wisnicky.

Required of Juniors in Animal Husbandry. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

5–b. Animal Diseases. A study of the more common economic infectious diseases of farm animals, their prevention and treatment, and general sanitation. Dr. Wisnicky.

Prerequisite: Animal Husbandry 4–a. Required of Juniors in Animal Husbandry. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

6–c. Animal Diseases. Continuation of 5–b, together with a study of the common non-infectious diseases and ailments of farm animals, and their treatment: unsoundness of the horse; the principles of horseshoeing, and the practice of simple surgical operations. Dr. Wisnicky.

Prerequisite: Animal Husbandry 4–a. Required of Juniors in Animal Husbandry. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

7–a. Animal Breeding. A study of the principles and practices of breeding farm animals. Practice is given in tracing out and studying pedigrees. Mr. McNutt.

Required of Seniors in Animal Husbandry. Lec., 3 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 10 units.

8–c. Livestock Markets and Products. A study of the various kinds of livestock markets and of the methods and regulations applying to the transportation of livestock. Some time will be spent in a study of the livestock centers, the stock yards, and the government inspection of animals before and after slaughter. The butchering of animals on the farm and the various cuts of meat will be discussed. References will be supplied to the student for individual work. Occasional trips will be taken to slaughter houses and packing plants. Mr. McNutt.

Prerequisite: Animal Husbandry 1–a. Required of Seniors in Animal Husbandry. Lec., 3 hrs.; prep., 4½ hrs.; 7½ units.

9–c. Sheep and Swine Husbandry. A consideration of the judging, breeding, feeding, management and preparation for the show ring of sheep and swine, with special reference to New Hampshire conditions. Mr. McNutt.

Prerequisites: Animal Husbandry 1–a and 3–a. Required of Juniors in Animal Husbandry. Lec., 3 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 8½ units.

10–b. Management of Horses and Beef Cattle. Lectures and recitations upon the care of brood mares and cows, management of stallions and bulls, the breaking and training of colts, preparation of animals for the show ring, the management of pure bred beef herds, and the feeding and handling of steers. Mr. McNutt.

Prerequisites: Animal Husbandry 1–a and 3–a. Required of Seniors in Animal Husbandry. Lec., 3 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 8½ units.

12–c. Animal Husbandry Seminar. Library and reference work and the preparation of papers on various animal husbandry subjects of timely importance. Mr. McNutt.

Prerequisites: Animal Husbandry 3–a, 5–b 6–c, and 7–a. Required of Seniors in Animal Husbandry. Lec., 1 hr.; lab., 2½ hrs.; prep., 2 hrs.; 5½ units.

14–a. Breeding and Management of Livestock. This subject is a brief consideration of the principles of breeding, feeding, marketing and management of beef cattle, horses, sheep and swine. Mr. McNutt.

Prerequisites: Animal Husbandry 1–a and 3–a. Offered and designed for students in the Teacher Training course only. Senior year. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

ARCHITECTURE

ERIC T. HUDDLESTON, *Professor*
PAUL H. SHRAMM, *Instructor*
CHESTER E. DODGE, *Instructor*

Major: 150 time units of departmental and related departmental subjects, exclusive of elementary subjects and those listed as prerequisites.

Prerequisites: Major in Art. Art 20–a, 2–b, 3–c, 10–a, 11–b, 12–c.

Prerequisites: Major in Architecture, Art 20–a, 21–b, 22–c, Arch. 6–b, 7–c, 2–b, 3–c, 11–b, 12–c, Hist. 113–a, 128–b, 129–c.

ARCHITECTURE

2–b, 3–c. Introduction to Architecture. Assigned readings with brief discussions of the historical development of the classical periods of architecture and an analysis of the chief contributions each period made toward a constructive and artistic advance in architectural design. Mr. Huddleston.

Required of Freshmen in Architecture. Rec., 1 hr.; prep., 1½ hrs.; 2½ units.

6–b, 7–c. Graphics. Exercises in constructive and descriptive geometry with applications to developments and intersections, shades and shadows, and perspective. Mr. Dodge.

Prerequisite: M. E. 5–a. Required of Freshmen in Architecture. Draw., 5 hrs.; 5 units.

11–b, 12–c. Elements of Architecture. Drafting room exercises in the study of the classic orders of architecture, and elementary studies in architectural composition and design. Mr. Huddleston.

Required of Freshmen in Architecture. Draw., 5 hrs.; 5 units.

20–a. Domestic Architecture. Lectures and recitations devoted to a brief study of the history of domestic architecture; the relation of the house plan to home making and to the individual site, to the garden, to accessory buildings, and to the community; supplemented by drafting room exercises in the use of drawing instruments as a preparation for further study in house planning. Mr. Huddleston.

Required of Sophomores in Home Economics. Rec, 1 hr.; prep, 1 hr.; draw., 2 hrs.; 4 units.

21–b. Domestic Architecture. Drafting room exercises in architectural representation, followed by an analytical study of house plans. Problems are issued to the student for graphical solution such as would be presented to an architect by a prospective home builder. Mr. Huddleston.

Prerequisite: Arch. 20–a. Required of Sophomores in Home Economics. Draw., 4 hrs.; 4 units.

22–c. Domestic Architecture. A continuation of Arch. 21–b, taking up the study of an individual building problem, and making working drawings for a small frame house designed by the student to conform to specific requirements. Mr. Huddleston.

Prerequisite: Arch. 21–b. Elective for Sophomores in Home Economics. Draw., 4 hrs.; 4 units.

23–a. Domestic Architecture. Lectures and recitations devoted to a brief study of the history of domestic architecture; the relation of the house plan to home making and to the individual family; its relation to the individual site, to the garden, to accessory buildings, and to the community. Problems are issued to the student for graphical solution such as would be presented to an architect by a prospective home builder. Mr. Huddleston.

Required of Seniors in Architecture. Rec., 1 hr.; draw., 4 hrs.; prep., 1 hr.; 6 units.

25–c. Domestic Architecture. A continuation of Arch 23–a, taking up the study of an individual building problem, and making working drawings for a small frame house designed by the student to conform to specified requirements. Mr. Huddleston.

Required of Seniors in Architecture. Draw., 4 hrs.; 4 units.

30–a, 31–b, 32–c. Materials of Construction. Their properties and uses. Considerations affecting their choice for various parts of the structure. General types of structures classified according to use and materials used. Structural units. (Retaining walls, Footings, Piers, Columns, Beams, Girders, Trusses, etc.) Their place in the structure. Mr. Dodge.

Required of Juniors in Architecture. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

33–a, 34–b, 35–c. Building Construction. Problems in the determination of loads and stresses and principles of stability in buildings. Study of the fundamental principles involved in the different types of building construction and some idea of the typical proportions imposed by the use of different kinds of materials. Mr. Dodge.

Prerequisites: M. E. 51–c, Arch. 32–c. Required of Seniors in Architecture. Rec., 1 hr.; draw., 2 hrs.; prep., 4 hrs.; 7 units.

38–c. Structural Design. Theory and problems in detail design of structural members in buildings. Mr. Dodge.

Prerequisite: C. E. 62–c. Required of Seniors in Civil Engineering. Rec., 2 hrs.; draw., 5 hrs.; prep., 3 hrs.; 10 units.

39–a Building Sanitation. A study of water, soil, waste, and vent pipe systems within the building; plumbing fixtures, traps, etc., and their installation, and the fundamentals of the layout of the above in different types of buildings. Mr. Dodge.

Required of Juniors in Architecture. Rec., 1 hr.; prep., 1½ hrs.; 2½ units.

41–b. Professional Relations. Discussions and assigned reading covering the personal, ethical, business, and legal relations of the architect with clients, contractors, craftsmen, etc., and the relations that should exist between the architect and the community in which he lives. Mr. Huddleston.

Prerequisite: Arch. 37–b. Required of Seniors in Architecture. Rec., 2 hrs.; prep., 3 hrs.; 5 units.

50–a, 51–b, 52–c. Architectural Design. Class "B," Analytiques, programs of the Beaux Arts School of Design will be used as the basis for a progressive series of problems in architectural planning and design. Mr. Huddleston.

Prerequisite: Arch, 12–c and Art 22–c. Required of Sophomores in Architecture. Draw., 16 hrs.; 16 units.

53–a, 54–b, 55–c. Architectural Design. A continuation of 52–c with Class "B" Project problems in architectural design, composition and planning. Mr. Huddleston.

Prerequisite: Arch. 52–c. Required of Juniors in Architecture. Draw., 16½ hrs.; 16½ units.

56–a, 57–b, 58–c. Architectural Design. Class "A" Project problems issued by the Beaux Arts Institute of Design will be used as a basis for advanced study of architectural design. Mr. Huddleston.

Prerequisite: Arch. 52–c. Required of Seniors in Architecture, Option I. Draw., 17 hrs.; 17 units.

INDUSTRIAL AND FINE ARTS

Schedule the following subjects as Arts 1–a, 2–b, etc.

1–a. Elementary Design. Studio exercises in the fundamentals of design, for the purpose of developing the student's ability to draw. Studies in pencil, pen and ink, and brush, of lines, space arrangement, proportion of line and form, symmetry and balance, and their adaptation to motifs for decoration according to the laws of beauty, harmony and construction. Mr. Shramm.

Elective. Draw., 4 hrs.; 4 units.

2–b. Decorative Design. Studio exercises devoted to an analytical study of historic ornament, flower and plant forms, and the human figure, supplemented with the study of color theories, harmonies and qualities based on spectral colors; practice in tinting, contrasting, and harmonizing colors. Mr. Shramm.

Prerequisite: Art 1–a. Elective. Draw., 4 hrs.; 4 units.

3–c. Advanced Design. An elective offered to give a broader working knowledge of design principles; these principles to serve as a guide and for practical application in selection, adaptation and composition (both structural and decorative) in interior decoration and costume design. Mr. Shramm.

Prerequisite: Art 2–b. Elective. Draw., 4 hrs.; 4 units.

10–a, 11–b, 12–c. Elementary Free-hand Drawing. Studio exercises in the elements of design and the study of the principles of arrangement, proportion of line and form, symmetry and balance; followed by a study of the larger elements of design with brush and charcoal. Mr. Shramm.

Required of Sophomores in Architecture. Draw., 6 hrs.; 6 units.

13–a, 14–b, 15–c. Free-hand Drawing. Studio exercises in pencil, charcoal, pen and ink, water color, and clay modeling from architectural details and plaster casts of the human form; sketching from nature and from memory. Mr. Shramm.

Prerequisite: Art 3–c or 12–c. Required of Seniors in Architecture. Draw., 5 hrs.; 5 units.

16–a, 17–b, 18–c. Advanced Free-hand Drawing. Studio work arranged to meet the needs of those students who show special ability

and are judged capable of doing individual work of an advanced nature. Mr. Shramm.

Special permission must be obtained from the head of the department before registering in this subject. Hours and units to be arranged.

20–a. **Free Design.** Studio work designed to bring out the latent talents of the individual for graphical expression. Original ideas will be guided through the processes of development by criticisms and suggestions only, the student being given perfect freedom for self-expression. Mr. Shramm.

Elective by permission of instructor. Draw., 5 hrs.; 5 units.

21–b, 22–c. **Color and Rendering.** Color theories, harmonies and qualities based on spectral colors; practice in tinting, contrasting and harmonizing colors. Individual technique will be arranged, encouraged, and directed toward a further study of rendering that will be used in presenting problems in architectural design. Mr. Shramm.

Required of Freshmen in Architecture. Elective by permission of instructor. Draw., 5 hrs.; 5 units.

BOTANY

Ormond R. Butler, *Professor*
Marian E. Mills, *Assistant Professor*
Stuart Dunn, *Instructor*
Ralph R. Jenkins, *Assistant*

Major: 150 time units in Botany and cognate courses exclusive of elementary subjects. Chemistry 1–a, 2–b and 3–c must be taken and will be counted as part of the major requirement.

1–a. **General Botany.** An introductory study of flowering plants with special emphasis on the structure and functions of organs. Miss Mills.

Required of Freshmen in Agriculture. Lec., 2 hrs.; lab., 4 hrs.; prep., 2 hrs.; 8 units.

2–b. **General Botany.** A continuation of 1–a. The study of selected types of algae, fungi, mosses and ferns, emphasizing growth habits, reproduction, evolutionary development and economic importance. Miss Mills.

Prerequisite: Botany 1–a. Required of Freshmen in Agriculture. Lec., 2 hrs.; lab., 4 hrs.; prep., 2 hrs.; 8 units.

3–c. General Botany. A continuation of 2–b. The study of the life histories of gymnosperms; the morphology and physiology of flowers, fruits, seeds and seedlings. Evolution and heredity. Miss Mills.

Prerequisite: Botany 2–b. Required of Freshmen in Agriculture. Lec., 2 hrs.; lab., 4 hrs.; prep., 2 hrs.; 8 units.

4–b, 5–c. Plant Physiology. Structure and properties of the cell; absorption and movement of water; metabolism; growth and irritability. Mr. Dunn.

Prerequisite: Botany 3–c. Required of Juniors in Forestry and Seniors in Horticulture. Lec., 1 hr.; lab., 5 hrs.; prep., 2 hrs.; 8 units.

6–a. Plant Histology. Characterization and differentiation of plant tissues; micro-technique. Mr. Dunn.

Prerequisite: Botany 3–c. Required of Juniors in Forestry. Lab., 6 hrs.; prep., 2 hrs.; 8 units.

8–a. General Bacteriology. The study of the morphology and physiology of bacteria and related organisms; the principles of sterilization; preparation of media; technique of staining; methods of isolation and cultivation. Miss Mills.

Required of all Home Economics Juniors. Lec., 2 hrs.; lab., 4 hrs.; prep., 2 hrs.; 8 units.

8.5–b. Applied Microbiology. Standard methods of examination of milk and water; soil and sewage bacteria; the relation of microörganisms to the spoilage of food and food poisoning; organisms pathogenic to plants and animals. Miss Mills.

Prerequisite: Bacteriology 8–a. Required of all Home Economics Juniors. Lec., 2 hrs.; lab., 4 hrs.; prep., 2 hrs.; 8 units.

10–b, 11–c. Agricultural Bacteriology. A study of the morphology and physiology of the bacteria, and the practical application of bacteriology to agriculture, special attention being given to the relation of microorganisms to the soil, the dairy industry, diseases of plants and animals, and the maintenance of pure water supplies. Miss Mills.

Required of all Agricultural Sophomores. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 8 units.

12–a. Plant Pathology. The bacterial and fungous diseases of plants; their symptoms, cause and prevention. Mr. Dunn.

Prerequisite: Botany 3–c. Required of Juniors in Horticulture and Seniors in Forestry and Teacher Training. Lec., 1 hr.; lab., 5 hrs.; prep., 2 hrs.; 8 units.

13–b. Plant Pathology. A continuation of 12–a.

Prerequisite: Botany 12–a. Required of Juniors in Horticulture and Seniors in Forestry. Lec., 1 hr.; lab., 5 hrs.; prep., 2 hrs.; 8 units.

15–a, 16–b, 17–c. Advanced Botany. The subject-matter will depend upon the training and desire of the student. It cannot be elected without previous consultation. Mr. Butler, Miss Mills and Mr. Dunn.

Units to be arranged.

18–b. Plant Pathology. Lectures on the fungous diseases of our economic plants, their symptoms, cause, and prevention. Mr. Dunn.

Prerequisite: Botany 12–a. Required of Teacher Training Seniors. Lec., 1 hr.; prep., 2 hrs.; 3 units.

19–c. Systematic Botany. A study of the higher plants of our native flora. The student is required to prepare an herbarium of 60 specimens. Miss Mills.

Field trips; laboratory work; occasional lectures. Field trips and lab., 4 hrs.; prep., 2 hrs.; 6 units.

For subjects primarily for graduate students, see Catalog of the Graduate School.

CHEMISTRY

CHARLES JAMES, *Professor*
GEORGE A. PERLEY, *Associate Professor*
MELVIN M. SMITH, *Assistant Professor*
HEMAN C. FOGG, *Assistant Professor*
RICHARD H. KIMBALL, *Instructor*
HORACE H. BLISS, *Instructor*
WILLIAM P. WHITE, *Assistant*
ROSWELL H. EVANS, *Assistant*

1–a. Inorganic Chemistry. Lectures and recitations on general and theoretical chemistry. Solution of chemical problems will be required. Mr. James, Mr. Smith and Mr. Kimball.

Required of all Freshmen in the College of Technology and in the Arts Course in Chemistry. Rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

2–b, 3–c. Inorganic Chemistry. Lectures and recitations on general and theoretical chemistry. Mr. James and Mr. Smith.

Required of Freshmen in Chemistry courses. Rec., 3 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 10 units.

5–b, 6–c. Inorganic Chemistry. Lectures and recitations on general and theoretical chemistry. Mr. Smith, Mr. Kimball and Mr. Bliss.

Required of Freshmen in Mechanical, Electrical, Civil and Industrial Engineering. Rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

7–a, 8–b, 9–c. Inorganic Chemistry. Lectures and recitations on general chemistry and its application to everyday life. Mr. Perley and Mr. Smith.

Elective for Liberal Arts Students. Rec., 3 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 10 units.

10–a, 11–b, 12–c. Inorganic Chemistry. Lectures and recitations in chemistry as applied to agriculture. Mr. Fogg and Mr. Smith.

Required of Freshmen in Agriculture. Rec., 3 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 8½ units.

13–a, 14–b, 15–c. Inorganic Chemistry. Lectures and recitations on general chemistry with special reference to Home Economics problems. Mr. Smith.

Required of Freshmen in Home Economics. Rec. 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

21–b. Qualitative Analysis. Laboratory practice, with occasional lectures and recitations. The student is expected to become proficient in the separation and detection of the common acids and bases and to keep a full set of notes. Mr. Fogg and Mr. Bliss.

Prerequisite: Chemistry 5–b. Required of Sophomores in Electrical and Mechanical Engineering. Lab., 5 hrs.; prep., 1 hr.; 6 units.

22–c. Qualitative Analysis. Laboratory work, with occasional lectures and recitations. The work includes the detection of the more familiar acids and bases in both simple and complex mixtures. Mr. Fogg and Mr. Bliss.

Prerequisite: Chemistry 3–c. Required of Sophomores in Chemistry. Lab., 7½ hrs.; 7½ units.

23–a. Qualitative Analysis. A continuation of 22–c. Mr. Fogg and Mr. Bliss.

Required of Sophomores in Chemistry. Lab., 7½ hrs.; 7½ units.

25–a, 26–b, 27–c. Introductory Qualitative and Quantitative Analysis. Laboratory practice, with occasional lectures and recitations. Especially adapted to the needs and uses of the Liberal Arts students, Mr. Fogg and Mr. Bliss.

Prerequisite: Chemistry 8–b. Required of Sophomore Premedical students and Junior Agricultural Chemists. Elective for Liberal Arts students. Lab., 7½ hrs.; 7½ units.

28–b, 29–c. Quantitative Analysis. A preliminary study of quantitative analysis to familiarize the student with the general methods of chemical manipulation and analysis. Mr. Fogg.

Prerequisite: Chemistry 20–a. Required of Sophomores in Chemistry. Elective for Sophomores, Juniors and Seniors in Liberal Arts, provided laboratory facilities permit. Lab., 7½ hrs.; prep., 1 hr.; 8½ units.

30–a, 31–b. Advanced Quantitative Analysis. Mr. Fogg.

Prerequisite: Chemistry 29–c. Required of Juniors in Chemistry. Elective for Liberal Arts students. Lab., 15 hrs.; prep., 1 hr.; 16 units.

32–c. Advanced Quantitative Analysis. Continuation of 31–b. Mr. Fogg.

Required of Juniors in Chemistry. Elective for Liberal Arts students. Lab., 10 hrs.; prep., 2 hrs.; 12 units.

40–a. Organic Chemistry. Lectures and recitations. A study of the chemistry of the carbon compounds. Mr. Kimball.

Prerequisite: Chemistry 3–c. Required of Sophomores in Chemistry and Junior Agricultural Chemists. Rec., 2 hrs.; prep., 3 hrs.; 5 units.

41–b, 42–c. Organic Chemistry. A continuation of 40–a. Mr. Kimball.

Prerequisite: Chemistry 40–a. Required of Sophomores in Chemistry and of Junior Agricultural Chemists. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

43–b, 44–c. Organic Chemistry Laboratory. The work in this subject consists mainly of laboratory practice in preparing and purifying organic compounds. Lectures and recitations will be held from time to time in connection with the practice. Mr. Kimball.

Prerequisite: Chemistry 40–a. Required of Sophomores in Chemistry and Senior Agricultural Chemists. Lab., 5 hrs.; 5 units.

46–a, 47–b, 48–c. Organic Chemistry. Lectures and recitations. An introductory course in the study of the chemistry of carbon compounds. Mr. Kimball.

Prerequisite: One year Freshman Chemistry or 15–c. Elective for Liberal Arts students. Required of Junior Premedicals. Rec., 3 hrs.; prep., 6 hrs.; 9 units.

49–a, 50–b, 51–c. Organic Chemistry Laboratory. The work in this subject consists mainly of laboratory practice in preparing and purifying organic compounds. Lectures and recitations will be held from time to time in connection with the practice. This is a companion course to 46–a, 47–b, 48–c, and must be taken in conjunction with or after these courses. Mr. Kimball.

Elective for Liberal Arts students. Required of Junior Premedicals. Rec., 1 hr.; lab., 5 hrs.; 6 units.

52–a, 53–b, 54–c. Advanced Organic Chemistry. A consideration of the more advanced theories of organic chemistry, either leading to further work in the subject, or in connection with other branches of chemistry or with medicine. Mr. Kimball.

Prerequisite: Chemistry 42–c or 48–c. Required of Juniors in Chemistry who intend to take their thesis in Organic Chemistry. Elective for Technology, Liberal Arts or Agricultural students. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

55–a. Advanced Organic Laboratory. Advanced preparations and practice in the quantitative analysis of organic compounds. Mr. Kimball.

Prerequisite: Chemistry 54–c. Elective for Seniors who intend to take their thesis in Organic Chemistry. Prep., 2½ hrs.; lab., 15 hrs.; 17½ units.

60–a, 61–b, 62–c. Physical Chemistry. Advanced study of chemical theory, covering vapor density, molecular weights, specific heat, diffusion of gases, solutions, ionization, catalysis, colloids, thermochemistry, equilibrium, the phase rule, etc. Mr. Perley.

Prerequisite: Chemistry 3–c or one year Freshman Chemistry. Required of Juniors in Chemistry and Senior Agricultural Chemists. Elective for Liberal Arts students. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

64–b, 65–c. Physical Chemistry Laboratory. Mr. Perley.

Prerequisite: Chemistry 60–a. Required of Juniors in Chemistry and Senior Agricultural Chemists. Lab., 5 hrs.; prep., 2 hrs.; 7 units.

66–a, 67–b, 68–c. Elementary Physical Chemistry. A course devoted to those parts of physical and theoretical chemistry which have

found important applications in physiology, bacteriology and other branches of biological science. Elective for Liberal Arts students. Mr. Perley.

Prerequisite: One year Freshman Chemistry. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

80–a, 81–b, 82–c. **Advanced Inorganic Chemistry.** Mr. James.

Prerequisite: Chemistry 3–c, for any term. Required of Seniors in the Arts course in Chemistry; and of Juniors in Technology Course in Chemistry who are not intending to take their thesis in Organic Chemistry. Rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

110–a, 111–b, 112–c. **Industrial Chemistry.** Mr. Perley.

Prerequisite: Chemistry 3–c. Required of Seniors in Technology Course in Chemistry. Elective for students in the Arts course in Chemistry. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

130–a, 131–b, 132–c. **Seminar.** A weekly discussion group covering current events in Chemistry.

Required of Seniors in Chemistry. Rec. 1 hr.; prep., 1½ hrs.; 2½ units.

133–a, 134–b, 135–c. **Thesis.** The time is devoted to some selected subject, and the student is required to present a thesis showing him to be a careful manipulator and a person of independent thought.

For Seniors in Chemistry who have completed Chemistry 32–c. Lab., 15 hrs.; prep., 2½ hrs.; 17½ units.

For subjects primarily for graduate students, see Catalog of the Graduate School.

CIVIL ENGINEERING

EDMOND W. BOWLER, *Assistant Professor*
CLAYTON W. HOLMES, *Instructor*

1–c. **Plane Surveying.** Theory and use of level and transit. Field work consists of chaining, range pole practice, differential and profile leveling, angle measurement and traversing. Mr. Holmes.

Prerequisite: Mathematics 202–b. Required of all Freshmen in the College of Technology, except those taking Architecture and Chemical Engineering. Rec., 1 hr.; lab., 5 hrs.; prep., 1½ hrs.; 7½ units.

2–a. **Topographical Surveying.** Adjustments of levels and transits. Theory and use of levels, transits, plane tables, stadia, precise

base line methods and topographical surveys. A topographic map of a selected area is completed from survey notes obtained in field work. Mr. Holmes.

Prerequisites: Civil Engineering 1–c and Mechanical Engineering 3–c. Required of Sophomores in Civil Engineering. Lab., 5 hrs.; prep., 1 hr.; 6 units.

3–b. **Topographical Drawing.** The Civil Engineering students will use data taken in the field during the fall, for preparation of a topographical map including more detail than in that required in Civil Engineering 2–a. Mr. Holmes.

Prerequisite: Civil Engineering 2–a. Required of Civil Engineering students. Lab., 5 hrs.; 5 units.

4–c. **Railway Curves.** Problems of curves used in railway and highway location. Theory and methods of layout of simple and compound curves and spirals are studied.

Prerequisite: Civil Engineering 1–c. Required of Sophomores in Civil Engineering. Rec., 1 hr.; lab., 2½ hrs.; prep., 1½ hrs.; 5 units.

5–a. **Surveying.** Use of level and transit as they apply to differential and profile leveling, topographic mapping of restricted areas as sites for buildings, in staking out and supervising work under construction.

Prerequisite: Mathematics 4–c. Required of Junior Architectural students. Rec., 1 hr.; lab., 5 hrs.; prep., 1½ hrs.; 7½ units.

6–c, 7–a. **Surveying.** This subject is comparable to Civil Engineering 1–c and 2–a with the direct application to the problems found in Forestry and Agriculture.

Prerequisite: Mathematics 22–c. Required of Sophomores and Juniors in Forestry. Rec., 1 hr.; lab., 5 hrs.; prep., 1½ hrs.; 7½ units.

8–b. **Engineering Astronomy.** A study of the underlying theories used in the reduction of astronomical observations for latitude and azimuth to be taken as part of the location surveys in 20–c.

Required of Sophomores in Civil Engineering. Rec., 2 hrs.; prep., 3 hrs.; 5 units.

20–c, 21–a. **Highway Location.** Preliminary and final location of about one mile of highway line. This includes making paper location, taking cross-sections, setting slope stakes, figuring quantities, etc.

Astronomical observations are made for determining of latitude and azimuth.

Prerequisite: Civil Engineering 3–b. Required of Sophomores in Civil Engineering. 20–c. Rec., 1 hr.; lab., 5 hrs.; prep., 1½ hrs.; 7½ units. 21–a, Lab., 5 hrs.; 5 units.

22–b. Highway Materials. Their formation, occurrence, and properties.

Prerequisites: Civil Engineering 20–c. Required of Juniors in Civil Engineering. Rec., 1 hr.; lab. 2½ hrs.; prep. 1½ hrs.; 5 units.

23–a, 24–b, 25–c. Economics of Highway Design. A study of location, design, construction and maintenance of highways and methods of financing and laws under which they are built and controlled in various states of the Union.

Prerequisites: Civil Engineering 20–c and 22–b. Required of Seniors in Civil Engineering. Rec., 1 hr.; lab., 2½ hrs.; prep., 1½ hrs.; 5 units.

26–a, 27–b, 28–c. Motor Transportation. A general course on road grades and surfacing as they apply to bus and truck transportation and the use of these motor vehicles in coöperation and competition with rail transportation.

Prerequisite: Electrical Engineering 27–c. Required of Seniors in Mechanical, Industrial, and Civil Engineering. Rec., 1 hr.; lab., 2½ hrs.; prep. 1½ hrs.; 5 units.

41–b, 42–c. Hydraulics. Static pressures of liquids. Theory, coefficients and use of orifices and weirs for measurement of flow of water. Derivation and application of formulas and friction factors in the flow through pipes and open channels. Theory and use of hydraulic machinery are given in the spring term.

Prerequisite: Mechanical Engineering 43–a. Required of Juniors in Civil Engineering. Rec., 2 hrs.; lab., 2 hrs.; prep., 3 hrs.; 7 units.

43–b, 44–c. Hydraulics. A study of the theory of fluid pressure and water in motion and the friction factors and the coefficients which apply to the use of water in the fields of Mechanical and Electrical Engineering.

Prerequisite: Mechanical Engineering 43–a. Required of Seniors in Mechanical, Electrical and Industrial Engineering. 43–b, Rec., 3 hrs.; prep., 4½ hrs.; 7½ units. 44–c, Rec., 2 hrs.; prep., 3 hrs.; 5 units.

45–a. Water Supply. Municipal supplies, including quantities required, sources, storage, distribution, equipment and accessory structures.

Prerequisite: Civil Engineering 42–c. Required of Seniors in Civil Engineering. Rec., 1 hr.; lab., 2½ hrs.; prep., 1½ hrs.; 5 units.

46–b. Water Purification. A study of slow sand and mechanical methods of water purification.

Prerequisite: Civil Engineering 45–a. Required of Seniors in Civil Engineering. Rec., 1 hr.; lab., 2½ hrs.; prep., 1½ hrs.; 5 units.

47–b. Sewerage. The theory and problems in design of municipal sewerage.

Prerequisite: Civil Engineering 42–c. Required of Seniors in Civil Engineering. Rec., 1 hr.; lab., 2½ hrs.; prep., 1½ hrs.; 5 units.

48–c. Sewage Disposal. A study of the laws governing the disposal of sewage and the various methods of sewage treatment.

Prerequisite: Civil Engineering 47–b. Required of Seniors in Civil Engineering. Rec., 1 hr.; lab., 2½ hrs.; prep., 1½ hrs.; 5 units.

49–a, 50–b, 51–c. Hydraulic Engineering. The study of run-off and drainage areas, stream regulation, the economic use of water for power purposes and the characteristics of hydraulic motors and power plants.

Prerequisite: Civil Engineering 42–c. Required of Seniors in Civil Engineering. Rec., 2 hrs.; prep., 3 hrs.; 5 units.

60–a, 61–b, 62–c. Stresses. The graphical and analytical methods of determining reactions, moments and shears in frame structures under static and dynamic loads and the stresses in individual members.

Prerequisite: Mathematics 8–b. Required of Juniors in Civil Engineering. Rec., 3 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 10 units.

63–a. Bridge Design. Theory and problems in design of steel and reinforced concrete highway and railway bridges.

Prerequisite: Civil Engineering 62–c. Required of Seniors in Civil Engineering. Rec. 2 hrs.; lab., 5 hrs.; prep., 3 hrs.; 10 units.

64–b. **Concrete Structures.** Theory and problems in design of plain and reinforced concrete structures, including retaining walls, arches and frames of buildings.

Prerequisite: Civil Engineering 64–b. Required of Seniors in Civil Engineering. Rec., 2 hrs.; lab., 5 hrs.; prep., 3 hrs.; 10 units.

65–c. **Building Design.** Theory and problems in design of steel trusses and frames of buildings.

Prerequisite: Civil Engineering 63–a. Required of Seniors in Civil Engineering. Rec., 2 hrs.; lab., 5 hrs.; prep., 3 hrs.; 10 units.

80–a, 81–b, 82–c, 83–a, 84–b, 85–c. **Student Chapter of the American Society of Civil Engineers.** An organization of Junior and Senior students in Civil Engineering. The subject consists of preparation and presentation of addresses in Civil Engineering topics by members, and in which the instructor present criticises the work from the point-of-view of delivery, subject matter and terms used.

Required of Juniors and Seniors in Civil Engineering. Rec., 1 hr.; prep., ½ hr.; 1½ units.

86–c. **Specifications.** Principles of specification writing. Preparation of a complete specification for an architectural or engineering structure.

Lab., 2½ hrs.; 2½ units.

90–a, 91–b, 92–c. **Thesis.** The thesis embodies research or commercial investigation in which equal emphasis is placed upon the composition and accuracy of subject matter.

Required of Seniors in Civil Engineering. Rec., 1 hr.; prep., 4 hrs.; 5 units.

93–s, 94–s. **Coöperative Work.** A practical application of the studies taken at the University, during the summer recess while employed on work of a civil engineering character. The students while thus employed will be under the general supervision of a member of the University faculty. The assignments following the Sophomore year will be on surveying parties and during the summer following the Junior year on construction work. Reports on work done are submitted early in the school term following the period of this employment.

Required of Sophomores and Juniors in Civil Engineering.

DAIRY HUSBANDRY

JOHN M. FULLER, *Professor*
HEBER F. DEPEW, *Assistant Professor*
BERT E. HUGGINS, *Instructor*

1–b. Farm Dairying. A general survey of the field of dairy husbandry. Such topics as the use of the Babcock test, farm separators, farm butter making and farm cheese making, and marketing dairy products, are included. Mr. Fuller.

Required of Sophomores in Agriculture. Lec., 3 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 10 units.

2–c. Dairy Cattle Judging. Animals in the college herd and in nearby herds will be judged. Mr. Fuller.

All students interested in the dairy cattle judging team should elect this subject. Required of students in Dairy Husbandry. Lec., 1 hr.; lab., 2½ hrs.; prep., 1½ hrs.; 5 units.

3–a, 3.5–b. Milk Production. The field of dairy husbandry in its relation to the producer. Feeding dairy animals; systems of herd feeding; silage and soiling; raising dairy animals; dairy herd development; dairy barns; advanced registry management; fitting dairy animals for show; dairy cattle judging. Mr. Fuller.

Required of Seniors in Dairy Husbandry. 3–a, Lec., 3 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 10 units. 3.5–b, Lec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

4–b. Testing Dairy Products. A thorough study of the Babcock test, with special work in testing various dairy products for butter fat; acidity tests for milk and cream; moisture tests for butter and cheese; use of lactometer. Mr. DePew.

Prerequisite: Dairy Husbandry 1–b. Required of Juniors in Dairy Husbandry. Lec., 1 hr.; lab., 5 hrs.; prep., 1½ hrs.; 7½ units.

5–a. Market Milk. Food value of milk; producing, handling, and distributing market and certified milk; dairy farm inspection; control of milk supply. Mr. DePew.

Prerequisite: Dairy Husbandry 1–b. Required of Seniors in Dairy Husbandry. Lec., 3 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 10 units.

6–c. Ice Cream and Cheese Making. (1) Lectures and laboratory work covering the manufacture of the more important types of cheese;

(2) The making, handling, and marketing of ice cream and ices. Mr. DePew.

Prerequisite: Dairy Husbandry 1–b or 8–a. Required of Seniors in Dairy Husbandry. Lec., 2 hrs.; lab., 5 hrs.; prep., 3 hrs.; 10 units.

7–a. Butter Making. A study of the secretion and of the chemical and physical properties of milk; pasteurization; cream ripening, starters, churning; organization and operation of factories. Mr. DePew.

Prerequisite: Dairy Husbandry 1–b. Required of Juniors in Dairy Husbandry. Lec., 2 hrs.; lab., 5 hrs.; prep., 3 hrs.; 10 units.

8–a. Domestic Dairying. Nutritive value of milk; market milk; modified milk; certified milk; condensed milk; milk powder; fermented milk; butter; cheese; and ice cream. Laboratory exercises are given in the manufacture of dairy products. Mr. DePew.

Elective for Juniors and Seniors in Home Economics and in Liberal Arts courses. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

9–a. Dairy Bacteriology. Methods of bacteriological analysis of milk and its products; relation of bacteria to milk and its products; study of effect on bacteria in milk of separation, clarification, pasteurization, aëration, and straining; and the application of bacteriological principles to the dairy industry. Mr. DePew.

Prerequisite: Botany 11–c. Required of Juniors in Dairy Husbandry. Lec., 1 hr.; lab., 5 hrs.; prep., 1½ hrs.; 7½ units.

10–c. Dairy Seminar. Studies of experiment station and other literature covering the field of dairy husbandry. Mr. Fuller.

Required of Seniors in Dairy Husbandry. Elective for other students. Lec., 2 hrs.; prep., 3 hrs.; 5 units.

11–c. Judging Dairy Products. The various standards and grades of dairy products will be studied. Practice will be given in judging milk, butter, cheese, and ice cream. Mr. DePew.

Elective for all students. Lab., 2½ hrs.; 2½ units.

12–c. Advanced Dairy Cattle Judging. Comparative judging of dairy cattle. Written summary covering subject of judging. Mr. Fuller.

Prerequisite: Dairy Husbandry 2–c. Elective for Agricultural students. Lec., 1 hr.; lab., 2½hrs.; prep., 1½ hrs.; 5 units.

13–a. Dairy Management. Care and feeding of dairy animals; farm dairy buildings; dairy herd development; manufacturing and marketing of dairy products; cow test associations. Mr. Fuller.

Required of Teacher Training Juniors. Lec., 3 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 10 units.

ECONOMICS AND ACCOUNTING

HARRY W. SMITH, *Professor*
ARTHUR W. JOHNSON, *Associate Professor*
NORMAN ALEXANDER, *Assistant Professor*
JOHN D. HAUSLEIN, *Assistant Professor*
CLAIR W. SWONGER, *Instructor*

Major: 150 time units of Economics, History, Political Science, Sociology and Psychology.

Students registering in the Business Fundamentals Course after September 1, 1928, must obtain a grade of 75 in at least 75 time units from the following list of required subjects: Accounting 112a, 113b, 114c, Accounting 115a, 116b, 117c, Economics 1a, 2b, 3c, Economics 7b, 8c, Economics 10a, Economics 13a, 14b, Economics 22a, Economics 54b, Economics 71a, 72b, 73c, Mathematics 1.5a, 2.5b, 3.5c.

Purpose: The broadest purpose of college instruction in Economics is to contribute to the public welfare by cultivating intelligent citizenship. In a narrower way the study of Economics should prove indispensable to those who intend to devote themselves to business, law, journalism, agriculture, social work or the public service.

Parallel Subjects: Collateral work in American History, Political Science, Sociology, Mathematics and Psychology would add greatly to the student's equipment for the most thorough work in Economics.

Departmental Requirements: Students majoring in the department of Economics are required to take the following courses as part fulfillment of their major requirements: one year's work in Principles of Economics, one year's work in Mathematics, one course in Economic History and any two courses of the following group: Labor Problems, Transportation, Money and Banking, and Corporations.

ECONOMICS

Introductory Subjects. Group A

1–a, 2–b, 3–c. Principles of Economics. This is a beginner's course and is planned for students who wish a general introduction to the field of Economics.

Required of all students majoring in Economics and of Business Fundamentals students. Elective for other Sophomores, Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

101–a, 102–b. Elementary Economics. This course is open only to Agricultural and Technology students.

Lec. or rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

101.5–a, 102.5–b, 103.5–c. Elementary Economics. This subject has been especially planned to meet the needs of Home Economics students.

Required of Home Economics students. Elective for other women students. Lec. or rec., 2 hrs.; prep., 4 hrs.; 6 units.

7–b, 8–c. Economic and Commercial History. This subject will trace the commercial and economic development of Europe and the United States. Special attention will be paid to this development during the last century.

Elective for Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

9–c. Economic and Commercial Geography. This subject aims to acquaint the student with the economic aspect of geography and to survey the chief industries of the world and the principal commodities of world trade.

Required of Business students. Elective for Sophomores. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

Advanced Subjects. Group B

Prerequisites: Completion of one year's work in principles of Economics. However, for the most satisfactory work in this group of subjects, students are encouraged to complete two years of work in the department as a prerequisite to group B.

10–a. Labor Problems. In this subject the historical background and the structure of labor organizations will be studied. Consideration will be given to strikes, their causes and effects, the closed and open shop, methods of dealing with labor disputes, labor legislation and labor parties. Labor conditions and labor movements since the war will receive adequate attention.

Prerequisite: Economics 3–c. Elective for Juniors and Seniors. Lec. or rec., 4 hrs.; prep., 6 hrs.; 10 units.

Note: Attention is also called to a parallel course in Mechanical Engineering, M. E. 251–a, dealing with labor problems from the employer's point of view.

13–a, 14–b. **Money and Banking.** A subject to set forth the principles and functions of money and their importance to society, together with a study of the various banking systems of the world with special emphasis on the Federal Reserve System of the United States.

Prerequisite: Economics 3–c. Elective for Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

18–c. **Marketing.** A subject to acquaint the student with the importance and complications of the marketing function.

Prerequisite: Economics 3–c. Elective for Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

22–a. **Corporations.** This subject deals with the evolution and forms of business organization. A study of selected types of business corporations will be made; and finally our public policy toward corporations will be traced and considered. Considerable attention will be paid to the Sherman Act, its interpretations and modifications.

Prerequisite: A satisfactory average in 50 units in Economics. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

26–b. **Transportation.** This subject aims to give an historical account of the development of transportation agencies in the United States, including the early stagecoach routes, river and canal transportation, electric lines and railroads. Since railroad transportation is a vital problem in the social, political, and economic development of the United States, major consideration is given to its development and its post-war status.

Prerequisite: A satisfactory average in 50 units in Economics. Text assignments, library readings and reports. Lec. or rec., 4 hrs.; prep., 6 hrs.; 10 units.

30–c. **Principles of Public Finance.** A brief survey will be made of the enormous increases in the expenditures of modern governments, together with a survey of the sources of public revenue. Particular attention will be paid to the theory and practice of taxation, recent taxation reforms, war loans, and taxation problems in New Hampshire.

Prerequisite: A satisfactory average in 50 units in Economics. Text assignments, library readings and reports. Lec. or rec., 4 hrs.; prep., 6 hrs.; 10 units.

34–a, 35–b, 36–c. History of Economics. It is the aim of this subject to present a critical account of the development of economic thought in the leading nations of the Western world; to study the economic systems of Greece, Rome, Mediaeval and Modern Europe, including the manorial, guild, mercantile, Kammeralistic, physiocratic, laissez faire, classical and socialistic systems; and to indicate the important relations of economic philosophy to historical, political and social environment.

Prerequisite: A satisfactory average in 50 units in Economics. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

40–a, 41–b, 42–c. Seminar in Current Economic Problems.

Elective for Seniors majoring in Economics who have attained a satisfactory average in the department. Rec., 2 hrs.; prep., conf., thesis: 9 units.

43–a, 44–b, 45–c. Advanced Seminar in Economic Investigation.

Rec., 2 hrs.; prep., conf., thesis; 9 units.

Special Subjects. Group C

50–a. Principles of Business. A general survey of the principles underlying modern business. Promotion, forms of organization, control of production, planning, handling of employees, advertising, selling, credit, accounting, business forecasting, etc.

Elective for Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

54–b. Corporation Finance. Corporate organization in modern business; outstanding points in its legal organization; classification and study of the instruments of finance, promotion, principles of borrowing, underwriting, capitalization, insolvency, reorganization, etc.

Prerequisite: Economics 22–a. Elective for Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

57–c. Salesmanship. A subject designed to analyze the fundamental principles of personal selling. Consideration of the personal qualifications of the successful salesman; motives which prompt purchasing and the various appeals to these motives. The construction of sales arguments, etc.

Elective for Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

71–a, 72–b, 73–c. Commercial Law. Sources and administration of the law. The laws of contracts, sales, agency, negotiable instruments, partnerships, corporations, real property and torts.

Elective for Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

74–a, 75–b, 76–c. Governmental Regulation of Business. An analysis of the legal status of business activities and practices together with government imposed limitations.

Elective for Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

104–a. Economic History of the Working Classes. This course will trace the development of the laboring class from early times to the present, with emphasis upon recent labor and employment conditions.

For Juniors and Seniors in the College of Technology only. Lec. or rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

105–b. Business Organization and Finance. This course will trace the evolution of the business unit from the individual entrepreneur to the modern business combination. It will deal with the financial and legal problems of each type, together with the legislative and government policies toward big business as revealed in trust legislation and court decisions.

For Juniors and Seniors in the College of Technology only. Lec. or rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

106–c. Law of Contracts.

For Juniors and Seniors in the College of Technology only. Lec. or rec., 2 hrs.; prep., 3 hrs.; 5 units.

205–b, 206–c. Traffic Management. A specialized course in the theory and practice of traffic management. (Not given in 1927–28.)

ACCOUNTING

Note: Students who have completed two or more years of bookkeeping in preparatory school will be permitted to register for Intermediate Accounting (No. 115–a, 116–b, 117–c) upon passing an examination covering the material of Elementary Accounting (Nos. 112–a, 113–b, 114–c).

Schedule the following subjects as Acct. 112–a, 113–b, etc.

112–a, 113–b, 114–c. Elementary Accounting. A thorough study of the basic principles and theory of accounting. Extensive practice in accounting problems of the single proprietorship and partnership types of business organization.

Elective for Sophomores, Juniors and Seniors, 112–a is prerequisite to 113–b. 113–b is prerequisite to 114–c. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

115–a, 116–b, 117–c. Intermediate Accounting. This subject is designed to follow 114–c, continuing with the work in partnerships, followed by a comprehensive study of corporation accounting. Extensive practice work in handling problems of corporation accounting.

Prerequisite: Accounting 114–c. 115–a is prerequisite to 116–b. 116–b is prerequisite to 117–c. Elective for such students as have completed Accounting 114–c, or its equivalent. See note above. Lec. or rec., 3 hrs.; prep. 7 hrs.; 10 units.

118–a, 119–b, 120–c. Advanced Accounting. Advanced theory of Accounting, extensive practice in solving C. P. A. problems, discussion of the Federal Income Tax Law and practice in computing returns.

Prerequisite: Accounting 117–c. 118–a prerequisite to 119–b. 119–b prerequisite to 120–c. Elective for such students as have completed Accounting 117–c or its equivalent. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

121–a, 122–b, 123–c. Cost Accounting. The relation of cost accounting to general accounting. The place of cost accounting in modern business. Study of various cost systems and their application to particular lines of business. Careful analysis of methods of compiling costs.

Prerequisite: Accounting 117–c. 121–a is prerequisite to 122–b. 122–b is prerequisite to 123–c. Elective for such students as have completed Accounting 117–c, or its equivalent. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

SPECIAL COURSE IN ACCOUNTING FOR WOMEN STUDENTS

124–a, 125–b. Household and Institutional Accounting. This subject is designed for students of Home Economics and is, therefore, not as well adapted for students planning to enter the business world as subjects 112–a and following. It presupposes no previous knowledge of bookkeeping; hence the basic elements of accounts are first taken up, followed by their application to the management of households and institutions, and the principles of budget making.

Elective for Liberal Arts Seniors. (Not given in 1927–28.)

131–a, 132–b, 133–c. Elements of Accounts. This course is open only to Agricultural and Technology students.

Lec. or rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

EDUCATION

JUSTIN O. WELLMAN, *Professor*
CARRIE A. LYFORD, *Assistant Professor in Home Economics Education*
HARLAN M. BISBEE, *Assistant Professor*
ADOLPH G. EKDAHL, *Assistant Professor*
NAOMI G. EKDAHL, *Instructor*
JOHN C. HERRING, *Instructor*
* PAUL E. FARNUM, *Instructor in Agricultural Education*

Major: The completion of the curriculum in professional education as described on page 82.

Graduate Work: For subjects primarily for graduate study, see Catalog of the Graduate School.

The purpose of the subjects in Education is to unite and correlate the forces of the college which contribute to the preparation of educational leaders in teaching and supervision in the secondary schools.

The prospective teacher of agriculture, industrial arts, home economics or any other subject should, with the advice of the staff members of the department, plan his course as soon as possible.

Professional Education for Teachers. It is recommended that prospective teachers plan their courses of study so as to include 12 to 24 semester hours of Education. The majority of states require professional training before teachers are granted permanent certificates. "College graduates or other students with four years of post-secondary education will be given secondary licenses, provided that their course included † twelve semester hours of college work in Education." New Hampshire State Board of Education Regulation, effective July 1, 1925.

The New Hampshire State Board of Education will accept credits obtained in the following courses in lieu of the usual State examinations: Education 22–b, 39–b, 40–c; 31–a and 33–c. The State Board will set the final examination for and evaluate the papers of those students who offer Education 44–c for certificate credit.

INTRODUCTORY SUBJECTS

11–a–b–c. Effective Methods of Study. The aim of this course is to assist the student in learning how to work at his task of getting his education in the most effective way. The general method employed in the

* Representing the State Department of Education in the administration of the Smith-Hughes Act.

† 50 time units. To convert time units into semester hours, use the ratio .24.

course is, first, to illustrate and explain the important factors that contribute to the total efficiency of a worker, then to outline a procedure for the attainment of the specific habits that must be formed to achieve the desired results. The topics discussed include: the need for greater efficiency in study; and in work and an analysis of learning; conservation of study—restoration of energy; use of ideals in the direction of energy; the development and use of attention and decision; planning one's work and working one's plan; securing favorable conditions for work; preparing an assignment; methods of memorization; the technique of investigation; how to prepare for an examination and how to answer examination questions. Assigned readings, problems, and exercises for oral discussion. Mr. Wellman.

Open to Freshmen. Three class meetings; prep., 3 hrs.; 6 units.

21–a. **Introduction to Education.** This subject places the student in direct contact with general educational problems that he will meet in his teaching experiences. The aim of the subject is realized through a treatment of such problems as the money cost of education; delegating responsibility for carrying on schools; the school building; the present status of teaching; present inequalities in educational opportunities; the movement toward the nationalization of education. Each problem considered will be definitely related to the welfare of the child as the central objective of all educational procedure. Lectures, assigned readings and discussions. Mr. Herring. (Given as 12–a prior to 1927–28.)

Open to all students except Freshmen. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

22–b. **History of Education.** A general survey of Greek, Roman and early history; Renaissance periods; intensive study of modern educational movements; evolution of the public school systems in the United States with special attention to the development since the Civil War as well as the growth of present organization and tendencies. Lectures, assigned readings and discussions. Mr. Herring. (Given as 13–b prior to 1927–28.)

Open to all students except Freshmen. Accepted for State Secondary Certificate. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

23–c. **History of Education in the United States.** This course is a continuation of Education 22–b in which the emphasis is given to a study of the well-rounded history of American education giving the

student a proper perspective in the consideration of present-day problems. A large part of the time is devoted to a discussion of the developments in American education since 1890. Modern tendencies in the secondary field, as well as in that of the college and university, will receive consideration in connection with such movements as junior high schools, junior colleges, pre-vocational training, vocational training, professional education, education of the super-normal and sub-normal. Lectures, assigned readings, reports and discussions. Mr. Herring.

Open to all students except Freshmen. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

30–a, 30–c. Applied Psychology in Commerce and Industry. The purpose of this course is to assist the student in obtaining a more accurate and complete understanding of human nature. The elementary facts, laws and principles of psychology are considered with specific applications to commercial and industrial problems and to vocational guidance. Lectures, assigned readings and discussions. Mrs. Ekdahl.

Required of Juniors in the Industrial Course and of Seniors in the Business Fundamentals Course. Open to a limited number of Juniors and Seniors in other courses. Lec. or rec., 3 hrs.; prep., 4½–6 hrs.; 7½–9 units.

(See courses under Experimental Psychology.)

31–a. Psychology of Childhood. An intensive study of the development of the mind from childhood to adolescence. A careful interpretation of the development of the individual's mental processes with a view to proper methods of education is given special attention. Lectures, problems, assigned readings and discussions. Mrs. Ekdahl. (Given as 4–a prior to 1927–28.)

Required of Seniors in Home Economics Teacher Training Course. Open to Juniors and Seniors. Accepted, jointly with 33–c, and 40–c, for State Secondary Certificate. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

32–b. Psychology of Adolescence. The purpose of this course is to give high school principals and teachers a deeper appreciation of the habitual and impulsive life of boys and girls in their teens. Topics: Preadolescence; the physical and mental traits of high school pupils; individual differences among high school pupils and their implications; motor training, gymnastics, athletics, play, sport, and games as they function in the education of the youth; growth of social ideas; adaptation of school work to intellectual development; moral and religious

training. Lectures, problems, assigned readings and discussions. Mrs. Ekdahl. (Given as 9–b prior to 1927–28.)

Required of Seniors in the Home Economics, Industrial and Agricultural Teacher Training courses. Open to Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

33–c. Psychology of Learning. This course considers the nature of learning and retention, and their neural bases; learning curves, their uses and significance; forms of learning; motives to learning; factors and conditions affecting the rate and permanency of learning; problems relating to learning capacity; transfer of training, and means of effecting beneficial transfers; applications to practical school work, and to the training of persons requiring special treatment. Lectures, assigned readings and discussions. Mrs. Ekdahl. (Given as 5–c prior to 1927–28.)

Open to Juniors and Seniors. Accepted jointly with 31–a and 40–c, for the State Secondary Certificate. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

34–a. Applied Psychology in Vocational Education. The purpose of this course is to assist the student in obtaining a more accurate and complete understanding of human nature. The elementary facts, laws and principles of psychology are considered with specific applications to professional and vocational education problems and to vocational guidance. Lectures, assigned readings and discussions. Mr. Herring. (Given as 8–a prior to 1927–28.)

Required of Juniors in Agricultural and Industrial Teacher Training courses. Open to Juniors and Seniors. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

35–a. Measurements and Statistics. This course deals with the principles, methods and application of various types of scales for measuring general mental ability and educational achievement. It includes a brief survey of statistical methods essential to an understanding of testing. Sufficient practice in giving tests is provided to give the student an appreciation of psychological methods of procedure. Mrs. Ekdahl. (Given as 6–a prior to 1927–28.)

Junior and Senior subject. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

36–b. The Measurement of Achievement. This course will furnish an opportunity to study the results of education as measured by evidences that children are learning. Some of the topics discussed

are: school marks; the development of standard tests; the diagnostic and prognostic study of tests; the interpretation of the results of achievement tests; how to develop scales in various secondary school subjects; the effects of measurements on examinations, scholarship marks, methods, supervision, courses and the like. Lectures, assigned readings, problems, and discussions. Mrs. Ekdahl.

Open to all Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

37–c. **Measurement of Aptitudes and Mental Alertness.** This course will concern itself with the problem of analyzing various types of intelligence. It deals with the chief facts of normal, mental, physiological, and anatomical development as a basis for differentiation in classroom procedure. Some attention will be given to the problem of adjustment among super-normal and sub-normal pupils. A technique of the administration of group and individual tests is studied and emphasis is laid upon performance tests. Lectures, assigned readings, problems, and discussions. Mrs. Ekdahl.

Open to Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

38–a. **Secondary Education in the Junior High School.** The evolution of the junior high school; its particular features and functions; the attempt to humanize the education of adolescents and advance the cause of democracy are some of the topics discussed. Considerable attention is given to the program of studies for and administration of junior high schools. Consideration is given in this course to extra-classroom activities and their articulation with classroom procedures. Lectures, assigned readings, problems, discussions. Mr. Wellman and Mr. Bisbee.

Open to Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

39–b. **Secondary Education.** Evolution of secondary schools, their articulation with elementary schools, colleges, technical institutes, vocations, and the home; teaching staff; curriculum; student organizations; life guidance; aims and values of the various high school subjects; extra curricular activities. Lectures, assigned readings, problems and discussions. Mr. Wellman and Mr. Bisbee. (Given as 14–b prior to 1927–28.)

Junior and Senior subject. Required of Seniors in Industrial Teacher Training. Accepted for State Secondary Certificate. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

40–c. Classroom Management and Methods. A consideration of the purposes of high school instruction; economy in classroom management; selection and arrangement of subject matter; types of learning involved in high school subjects; the place of practice or drill; the significance of reflective thinking and correct habit formation; the art of questioning; directed study; the measurement of the results of teaching. Lectures, assigned readings, problems and discussions. Mr. Wellman and Mr. Bisbee. (Given as 15–c prior to 1927–28.)

Junior and Senior subject. Required of Juniors in Agricultural and Seniors in Industrial and Home Economics Teacher Training. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

41–a–b–c. Supervised Teaching. The student participates in the conduct of class exercises and in the control of the class room, at first chiefly as an observer, but gradually entering into teacher responsibilities until complete charge of the class work is secured. Frequent conferences and discussions. The work will be under the direction of the head of the Department of Education. (Given as 16–a–b–c prior to 1927–28.)

Prerequisites: Senior standing in Professional Education Course and permission of the head of the department. 6–50 units.

42–a. History and Principles of Vocational Education. The historical development of vocational education. The psychological and sociological bases of vocational education; problems, institutions, methods, contemporary movements and legislation; applications of research in relating vocations and education. Lectures, assigned readings and discussions. Mr. Wellman. (Given as 20–a prior to 1927–28.)

Required of Seniors in Home Economics, Agricultural and Industrial Teacher Training courses. Senior subject. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

43–b. Hygiene of the School Child. This course will consider some of the more important chapters in modern school hygiene: conditions that determine growth and development, physiological age, the physical and mental differences between children and adults, the general principles of somatic and mental hygiene, tests of ability to work and physical condition, medical inspection, the development of habits of healthful mental activity and the hygienic aspects of various school exercises. Lectures, assigned readings, cases and discussions. Mrs. Ekdahl. (Given as 28–b prior to 1927–28.)

Junior and Senior subject. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

44–c. New Hampshire State Program of Studies and School Law. This course will consider the aims and purposes, the plan of organization and administration of the secondary school as outlined in the New Hampshire State Program of Studies. This program of studies will be evaluated in the light of those used in other states and students will have an opportunity here to become thoroughly acquainted with the secondary school organization in New Hampshire. Similar emphasis will be placed on the New Hampshire School Law. Lectures, assigned readings, and discussions. Mr. Bisbee. (Given as 29–c prior to 1927–28.)

Senior subject. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

45–a. School Administration. A subject in the fundamental principles of school administration intended primarily for superintendents, and for those who are preparing to become superintendents or supervisors, or directors of educational research. Topics: Principles of scientific management applied to school administration; school records and reports; problems of school finance; judging school buildings; special schools; special phases of school work as health education, compulsory attendance; the training of school superintendents and supervisors; the uses of school surveys; the publicity work of a school system. Reference, reports on special topics and discussions. Mr. Herring. (Given as 50–a prior to 1927–28.)

Open especially to men and women with teaching experience, or to those who have had several education courses and wish to prepare themselves for supervisory positions. Admission by consent of the instructor. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

46–b. High School Administration. The following topics will be covered: the legal status of the secondary high school; high school population; the problem of reorganization; the program of studies; vocational education and guidance in the high school; grading, measurement, classification, excess credit for quality; enrolling the student, social organization; community relationships; the high school library, staff, buildings, costs and efficiency, in general. Lectures, assigned readings and discussions. Mr. Wellman. (Given as 17–b prior to 1927–28.)

Open especially to both men and women who wish to become principals or headmasters. Admission by consent of the instructor. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

47–c. **Principles of Education.** Selected biological, psychological, sociological and statistical material will be treated in such way as to give the student not only a survey of the fundamental principles of education, but also a good basis for more intensive courses in education. Educational theory stressing the more important principles involved in the process of education especially in the secondary schools. Lectures, assigned readings and discussions. Mr. Herring. (Given as 14–c prior to 1927–28.)

Open to all students except Freshmen. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

AGRICULTURAL EDUCATION

48–b. **Agriculture in the High School.** This subject deals with special methods of teaching agriculture in the high school, with emphasis upon New Hampshire requirements as set up by the State Board of Education. The chief topics considered are: planning and equipping of classrooms and shops, selection of reference books, use and construction of charts and illustrative materials, the curriculum, the yearly plan of work; the presentation of materials of instruction through recitation, laboratory, field work and excursions; teaching through the home project, and supervised study. Mr. Farnum. (Given as 35–b prior to 1927–28.)

Required of Seniors taking the Agricultural Teacher Training Course, and open only to these students. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

49–c. **Supervised Teaching in Agriculture.** Each senior in the Teacher Training Course will spend at least ten weeks as an apprentice teacher in some agricultural high school selected by the State Commissioner of Education and the head of the Department of Education at the University of New Hampshire. This work will be under the regular teacher of Agriculture in the high school, and will be supervised by the instructor in Agricultural Education at the University of New Hampshire. Mr. Farnum. (Given as 36–c prior to 1927–28.)

Required of Seniors taking the Agricultural Teacher Training Course, and open only to these students. 50 units.

52–a. **Educational Problems.** (Democracy in Education and Character Development.) This course will discuss student participation in high school control; social functions, their nature, supervision, time, and place. The underlying principles of club work, together with a discussion of organization and administration of typical clubs of senior high

schools, will be given careful attention. The problem of character education and a discussion of the moral standards in our high schools as revealed by investigations will furnish the student with concrete evidence in this interesting field. Lectures, assigned readings, problems, and problems of research. Mr. Wellman and Mr. Bisbee.

Open to Seniors. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

53–b. Educational Problems. (Educational and Vocational Guidance.) This course endeavors to make clear the problems with which the school counselor, the employment manager, and the intelligent individual himself have to deal. It discusses the beginnings of the guidance, pseudo-guidance, counselors' work in junior and senior high schools, and shows the intelligent student how he may guide himself, the methods of securing a position and obtaining advancement. Lectures, assigned readings, projects, problems, case studies with special reports. Mr. Wellman and Mr. Bisbee.

Open to Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

54–c. Educational Problems. (The Psychology of Management.) This course is designed to help those who are concerned with administration and supervision, whether in the teaching profession or in any business occupation, to establish and maintain that human efficiency which results from high group morale. There will be a discussion of teacher participation through advisory council, shop committee plans, and other means of promoting democracy in the field of management. Three tenths of the time of this course will be devoted to the consideration of the psychology of camp leadership and special lectures will be introduced through the coöperation of the college Y. M. C. A. and Y. W. C. A. The camp leadership section will be open to all students and will carry 3 time units credit. Projects, problems, topical reports and discussions. Mr. Herring.

Open to Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

55–a, 56–b, 57–c. Special Problems in Educational Psychology. In this course an opportunity is afforded for intensive experimental and statistical work in Educational Psychology. Special problems may be carried over two or more terms. (Given as 30–a, 31–b, 32–c prior to 1927–28.)

Open to Seniors and graduate students who have 45 or more units in Psychology. Students admitted by special permission. Units to be arranged.

SPECIAL METHODS SUBJECTS

The Teaching of Composition in Secondary Schools (Eng. 83–a, 84–b).
The Teaching of History in Secondary Schools (Hist. 132–a, 133–b).
The Teaching of Home Economics in Secondary Schools (H. E. 106–a, 107–b, 108–c).
The Teaching of Latin in Secondary Schools (Latin 10–a, 11–b, 12–c).
The Teaching of Manual Arts in Secondary Schools (Shop 8–a or 8–b).
The Teaching of Mathematics in Secondary Schools (Math. 13–a, 14–b, 15–c).
The Teaching of Modern Languages in Secondary Schools (Modern Lan. 13–a, 14–b, 15–c, 22–a).
The Teaching of Physical Education (Phys. Ed. 19–a, 20–b, 21–c).
The Teaching of Physics (Phys. 25–b).
The Teaching of Social Sciences (Soc. 33–c and Econ. 44–b).
The Teaching of Zoölogy in Secondary Schools (Zoöl. 19–a, 20–b, 21–c).

ELECTRICAL ENGINEERING

LEON W. HITCHCOCK, *Professor*
FREDERICK D. JACKSON, *Assistant Professor*
WILLIAM B. NULSEN, *Instructor*

1–a, 2–b, 3–c. **Dynamo Electric Machinery.** This subject includes a general study of electric and magnetic quantities, direct current circuits, magnetic circuits, direct current generators and motors, primary and secondary cells and batteries, electrolysis, electroplating, electrotyping, electrical measuring instruments, inductance, capacity, alternating current circuits, power factor, wave form, alternators and armature windings. Mr. Hitchcock, Mr. Jackson, Mr. Nulsen.

Prerequisites: Physics 8–c, Mathematics 9–c, and Electrical Engineering 33–c. Required of Juniors in Electrical Engineering. Rec., 3 hrs.; prep., 6 hrs.; 9 units.

4–b. **Wire and Radio Communication.** A study of the acoustic and electrical principles of telephony, transmitting and receiving apparatus; magneto and common-battery switchboards and accessories; selective party-line systems; intercommunicating systems; overhead and underground construction; phantom, simplex, and composite circuits; transpositions, etc.; the principles of telegraphy, sounders, repeaters, etc.; radio communication, including the properties of oscillating circuits, antenna systems, radiation, damped and undamped wave radio telegraphy, radio telephony and special applications of radio circuits. Mr. Jackson.

Prerequisites: Electrical Engineering 3–c, 16–b, or 27–c, Required of Seniors in Electrical Engineering. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

5–c. Radio Circuits and Applications. A study of circuits for reception and for broadcasting. The application of the principles of radio communication and equipment in connection with electrical transmission and distribution systems, carrier current systems, tubes for the rectification of alternating current and a study of tube characteristics. Mr. Jackson.

Prerequisite: Electrical Engineering 4–b. Required of Seniors in Electrical Engineering. Lab., 4 hrs.; prep., 1 hr.; 5 units.

6–b. Electricity on the Farm. Arranged for and adapted to students in agriculture. The subject consists of a general study of electric circuits; generators, motors and storage batteries, their care and operation; simple problems in transmission; methods of wiring for electric light and power including a study of the National Electrical Code Rules; electric bell wiring and signalling apparatus; the telephone, the general principles upon which it operates, and the different systems of installation; etc. Mr. Nulsen.

Elective for Seniors in Agriculture. Rec., 3 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 10 units.

7–a, 8–b. Electrical Engineering Practice. This subject includes a detailed study of alternators, transformers, induction motors, regulators, synchronous motors, converters and rectifiers. Mr. Jackson, Mr. Hitchcock.

Prerequisite: Electrical Engineering 3–c. Required of Seniors in Electrical Engineering. Rec., 3 hrs.; prep., 6 hrs.; 9 units.

9–c. Transmission and Distribution Systems. A study of the factors affecting the design, construction and operation of transmission lines and distribution circuits. This includes the electrical, mechanical and economic calculations involved; lightning protection methods and apparatus; etc. Mr. Hitchcock.

Prerequisite: Electrical Engineering 8–b. Required of Seniors in Electrical Engineering. Rec., 3 hrs.; prep., 6 hrs.; 9 units.

10–b. Electric Railways. The practicability of construction from an economic standpoint; determination of the size, type and seating

capacity of cars; track location and construction; train schedules; methods of control; train resistance; speed-time and current-time curves; selection of motors; the feeder system; electrolysis; power station and sub-station location; storage batteries; signal systems; electric track switches; etc. Illustrated by problems. Mr. Hitchcock.

Required of Seniors in Electrical Engineering. Rec., 2 hrs.; prep., 2 hrs.; 4 units.

11–a, 12–b, 13–c. Electrical Laboratory. This subject includes the operation and testing of direct and alternating current motors and generators, transformers, rotary converters, rectifiers, etc. A written report on each experiment or test is required. Mr. Nulsen.

Prerequisite: Electrical Engineering 30–c. Required of Seniors in Electrical Engineering. Lab., 5 hrs.; prep., 5 hrs.; 10 units.

15–a, 16–b. Industrial Electricity. This subject consists of a study of the electric circuit; the magnetic circuit; direct current generators and motors; elementary electrochemistry, covering storage batteries, refining of metals, electrotyping, and electroplating; inductance; capacity; the alternating current circuit; alternating current generators, motors, starting devices, controllers, transformers, converters and rectifiers. Mr. Nulsen.

Required of Seniors in Chemical Engineering. Rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

19–a. Illumination Engineering. A study of the National Electrical Code Rules for electrical wiring and apparatus; arc and incandescent lamps; the principles of photometry and illumination; shades and reflectors; residence, office, store and factory lighting; street lighting; flood lighting; electric signs; illumination calculations; rates; etc. Mr. Nulsen.

Required of Seniors in Electrical Engineering. Rec., 2 hrs.; prep., 4 hrs.; 6 units.

20–a. Electrical Problems. The solution of advanced problems; the use of complex quantities; the analysis of periodic curves; the discussion of factors affecting the design of electrical equipment.

Prerequisite: Electrical Engineering 3–c. Required of Seniors in Electrical Engineering. Rec., 2 hrs.; prep., 2 hrs.; 4 units.

21–c. Theory of Electrical Circuits. The application of mathematics to the solution of problems and in the treatment of circuits. The derivation of fundamental formulas and constants.

Prerequisites: Electrical Engineering 8–b and 20–a. Required of Seniors in Electrical Engineering. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

22–a, 23–b, 24–c. Thesis. An investigation of the history and development of electrical theory or equipment, or an original research involving electrical principles and their application. The written thesis must conform to the rules of grammar and composition and must be submitted at stated intervals for criticism. Mr. Hitchcock.

Required of Seniors in Electrical Engineering. Lab., 4 hrs.; 4 units.

25–a, 26–b, 27–c. Electrical Machinery. A study of the electric circuit; the magnetic circuit; direct current generators and motors; primary cells; storage batteries; inductance; capacity; the alternating current circuit; alternating current generators, motors, starting devices, controllers, transformers, converters and rectifiers. Mr. Nulsen, Mr. Jackson, Mr. Hitchcock.

Required of Juniors in Mechanical, Civil and Industrial Engineering. Rec., 3 hrs.; lab., 2½ hrs.; prep., 5½ hrs.; 11 units.

28–a, 29–b, 30–c. Electrical Laboratory. The operation and testing of direct current circuits and machinery to supplement the theory covered in Electrical Engineering 1–a, 2–b and 3–c. Mr. Jackson and Mr. Nulsen.

Prerequisite: Electrical Engineering 33–c. Required of Juniors in Electrical Engineering. Lab., 2½ hrs.; prep., 2½ hrs.; 5 units.

31–a, 32–b, 33–c. Introduction to Electricity. An elementary study of electrical circuits and machinery consisting of both calculations and experiments. Mr. Hitchcock, Mr. Jackson, Mr. Nulsen.

Required of Sophomores in Electrical Engineering. Lab., 2 hrs.; 2 units.

37–a, 38–b, 39–c. Electrical Problems. The solution of problems involving both direct current and alternating current circuits and machinery.

Required of Juniors in Electrical Engineering. E. E. 37–a and 39–c: Rec., 2 hrs.; prep., 3 hrs.; 5 units. E. E. 38–b: Rec., 2 hrs.; prep., ½ hr.; 2½ units.

41–a, 42–b, 43–c. Student Branch of the American Institute of Electrical Engineers. A student organization conducted in accordance with the By-laws of the Institute with meetings given a place on the

student's class schedule. Each student is required to present and discuss a paper on an approved subject. At times the meeting may take the form of a debate, an address by an outside lecturer or a motion picture of an instructive nature. A member of the faculty of the Department will be present at each meeting.

Required of Juniors in Electrical Engineering. Rec., 1 hr.; prep., ½ hr.; 1½ units.

44–a, 45–b, 46–c. Student Branch of the American Institute of Electrical Engineers. Continuation of 43–c. The meetings of the Branch are attended by both Juniors and Seniors.

Required of Seniors in Electrical Engineering. Rec., 1 hr.; prep., ½ hr.; 1½ units.

100–c. Electric Circuits. Adapted primarily to students in Architectural Construction. The calculation of wire sizes for circuits; a comparison of three-wire with two-wire circuits; the wiring of buildings for light and power; the requirements of the National Board of Fire Underwriters in connection with electrical installations; a study of types of lighting fixtures; reflectors; residence lighting; etc. Mr. Nulsen.

Required of Juniors in Architecture. Elective for Seniors in Liberal Arts and Agriculture. It is necessary to limit the number of students electing this subject. Approval of the head of the department must be secured. Rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

ENGLISH

ALFRED E. RICHARDS, *Professor*
CLARENCE W. SCOTT, *Professor*
HAROLD H. SCUDDER, *Associate Professor*
WILLIAM G. HENNESSY, *Assistant Professor*
CLAUDE T. LLOYD, *Assistant Professor*
LUCINDA P. SMITH, *Assistant Professor*
BETHYL C. HENNESSY, *Instructor*
PAUL S. SCHOEDINGER, *Instructor*
ROBERT G. WEBSTER, *Instructor*
EDMUND A. CORTEZ, *Instructor*
WILFRED B. SYLVESTER, *Instructor*
THOMAS H. MCGRAIL, *Graduate Assistant*

Major: 150 time units of departmental and related departmental subjects, exclusive of elementary subjects.

Graduate Work: For subjects primarily for graduate study, see Catalog of the Graduate School.

COMPOSITION

1–a, 2–b, 3–c. English Composition. The chief purpose of this subject is to give the student drill in the mechanics and conventions of English composition. Stress is laid upon expository writing. At the same time the elementary principles of grammar, punctuation, paragraphing, etc., are reviewed. Mr. Richards, Mrs. Hennessy, and Mr. McGrail.

Required of Agricultural and Technology Freshmen. Lec. or rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

1.5–a, 2.5–b, 3.5–c. English Reading. This subject has for its chief aim the correlation of Freshman English with the required subjects in other departments of the College of Liberal Arts. It consists of extensive reading (at least five books or their equivalent) in the fields of biography, fiction and history. Class drill in the elements of English grammar and composition is based upon the subject matter of the books read. Mr. Scudder, Mr. Hennessy, Mrs. Hennessy, Mr. Schoedinger, Mr. Webster, Mr. Cortez, Mr. Sylvester, and Mr. Webster.

Required of Liberal Arts Freshmen. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

4–a, 5–b, 6–c. Second Year English. This subject is a more advanced study of the principles of good writing. The characteristics of exposition, description, and narration are studied. There is frequent theme writing illustrating these forms of composition, and the work is supplemented by a program of outside reading. Mr. Lloyd, Mrs. Smith, Mr. Webster and Mr. Sylvester.

Required of Liberal Arts Sophomores. Lec. or rec., 1–3 hrs.; prep., 6 hrs.; lab., 0–2 hrs.; 9 units. Prerequisites: English 1.5–a, 2.5–b, and 3.5–c.

4.5–a, 5.5–b, 6.5–c. Principles of Business Writing. (Exclusively for Sophomores taking the Business Fundamentals Course.) This subject is the complement of 4–a (Second Year English) and differs from it only in the added emphasis it places upon the special forms of English writing employed in business. Drill in English grammar, collateral reading and discussion, and the writing of expository themes and business letters. Mr. Hennessy.

Prerequisites: English 1.5–a, 2.5–b, and 3.5–c. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

9–a. Theme Writing. This subject is one in advanced composition, giving practice in daily theme writing in addition to the study in class of the principles governing written composition as illustrated by standard

writers in the field of the essay, of the short story, and of poetry. Mr. Lloyd.

Prerequisite: English 6–c or 6.5–c. Elective for Juniors and Seniors. Lec. or rec., 1–3 hrs.; prep., 6 hrs.; lab., 0–2 hrs.; 9 units. (Formerly given as English 9–b.)

10–b. **The Short Story.** This subject is a continuation of 9–a (Theme Writing) and consists of a study of the technique of short story writing, followed by extensive practice in that field of narration. Admission is only by special permission. Mr. Lloyd.

Prerequisite: 9–a. Lec., rec., and conferences, 3 hrs.; prep., 6 hrs.; 9 units.

15–a–b–c. **Practice Work in Composition.** This subject is required of any student, other than a Senior, whose work has been reported by instructors as being faulty in English, and has been so judged by the dean of the college concerned and the head of the English Department. This subject does not give credit toward graduation. Mrs. Smith.

22–a, 23–b, 24–c. (See Electrical Engineering 22–a, 23–b, 24–c.) Mr. Lloyd.

73–a. **Expository Writing.** A study of the principles of exposition and the application of them to subjects of special interest to students of agriculture. Mr. Lloyd.

Prerequisite: English 3–c. Required of all Seniors in the College of Agriculture. No others admitted except by special permission. Lec. or rec., 3 hrs.; prep., 4½ hrs.; 7½ units. (Formerly given as 73–a–b–c.)

89–a, 90–b, 91–c. (See Mechanical Engineering 89–a, 90–b, 91–c.) Mr. Lloyd.

LITERATURE AND LANGUAGE

16–a, 17–b, 18–c. **Introduction to English Literature.** A general survey of English literature from its beginnings to the year 1900. To one who intends to teach English it is of fundamental importance. Lectures and recitations. Mr. Richards and Mr. Schoedinger.

Elective for all classes. Lec. or rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

20–a–b. **History of Seventeenth Century Literature.** A survey of prose and poetry (exclusive of the drama) from 1600 to 1700. Mr. Lloyd.

Elective for Juniors, Seniors, and Graduate students. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

20.5–a–b. Milton. A detailed study of Milton's minor poetry and Paradise Lost. Consideration is also given to the social, political and religious history of Milton's day as reflected in his life and poetry. (Not given in 1928–29.) Mr. Scudder.

20.5–a is a prerequisite for 20.5–b.

Elective for Juniors, Seniors and Graduate students. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

21–c. History of the English Drama. A survey of the English drama from its beginnings to the closing of the theatres. Constant reading of the plays, with written criticisms and reports, is required. Mr. Scudder.

Elective for Sophomores, Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

22–b. The English Novel in the Nineteenth Century. A study of the novel from Jane Austen to Thomas Hardy. There will be lectures, recitations, and constant outside reading. Mr. Scudder.

Elective for Juniors, Seniors and Graduate students. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

23–a, 24–b, 25–c. American Literature. Lectures and extensive outside reading. Mr. Scott.

Elective for Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

26–a. English Poetry. A study of English poetry written between 1798 and 1900. (Not given in 1927–28.) Mr. Richards.

Elective for Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

26.5–a. The English Romantic Poets. This course is designed to cover the so-called romantic movement in English poetry. The causes and characteristics of the movement will be studied while special attention is being given to the poetry of Wordsworth, Coleridge, Scott, Byron, Shelley and Keats. (Not given in 1928–29.)

Elective for Juniors, Seniors and Graduate students. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

27–a, 28–b, 29–c. Shakespeare's Plays. A study of the principal plays of Shakespeare. Recitations and occasional dramatic representations of famous scenes. A large amount of reading required. Mr. Hennessy.

Elective for Juniors, Seniors and Graduate students. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

31–b. Comparative Study of the Drama. The comparative history of the drama from Aeschylus to Ibsen, and the reading of representative dramas within the period. Discussion of theory, written reports, and class criticism. (Not given in 1928–29.)

Elective for Juniors, Seniors, and Graduate students. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

32–b. The Bible as Literature. A study of various literary types found in the Bible. Emphasis is placed especially upon the Old Testament in order to avoid the confusion of doctrines which enters into the New Testament. Biblical history is read merely as a background for the literature of the Bible. (Not given in 1928–29.)

Elective for Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

37–c. John Ruskin. The reading of selected essays by Ruskin which bear upon the literary, artistic and social problems of the present day. Mr. Richards.

Elective for Sophomores, Juniors and Seniors. Lec., or rec., 3 hrs.; prep., 6 hrs.; 9 units.

39–b. The American Novel. A survey of the novel in America from Charles Brockden Brown to the present time. There will be lectures and constant outside reading. Mr. Scudder.

Elective for Juniors, Seniors and Graduate students. Lec. or rec., 3 hrs.; prep., 8 hrs.; 11 units.

40–c. The American Short Story. A study of the short story in American fiction from 1786 to the present day. Mr. Scudder.

Elective for Sophomores, Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

41–a. Modern Poetry. A study of American poetry written since 1900. (Not given in 1928–29.)

Elective for Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

48–b. Contemporary Drama. The British and Continental drama from Ibsen to the present. A study of theories, types and developments. Lectures, reports and discussion. Mr. Hennessy.

Elective for Juniors, Seniors, and Graduate students. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

ORAL ENGLISH

60–c. Public Speaking. Theory and practice. Speech and the learning process: types of speech; a study of action, gesture, voice. A

general course for prospective business men, teachers and candidates for the various professions dependent upon a college training. Mr. Cortez.

Elective for Sophomores, Juniors and Seniors. Rec., 1 hr.; lab., 2 hrs.; prep.; 4½ hrs.; 7½ units.

61–a. Elementary Debating. The principles of debating; analysis of argument: the nature of evidence fallacy; the elements of conviction and persuasion; briefing; classroom debates. Mr. Cortez.

Elective for Sophomores, Juniors, and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

62–b. Advanced Debating. This subject is limited in respect to registration, to not more than fourteen students who wish to participate in intercollegiate debating. The subject offers intensive training on a limited number of topics. It is essentially a laboratory course. Mr. Cortez.

Elective for Sophomores, Juniors and Seniors. Prerequisite: English 61–a. Lab., 3 hrs.; prep., 3 hrs.; 6 units.

65–a–b–c. Play Production. This is not an elective subject. It is an advanced laboratory course in the actual staging and presenting of plays by standard authors. Members of the course are chosen by competitive trial test, and credit is given both for acting and for constructive work in the technical phases of production. Mr. Hennessy.

Time units 1–9.

69–c. Dramatic Interpretation. An elementary course in the principles of play producing. A study of diction, movement, tempo, characterization, coördination and direction. A laboratory course in which theory is taught through constant practice drill. Mr. Hennessy.

Elective for Juniors, Seniors; particularly for English majors. Rec., 3 hrs.; prep., 6 hrs.; 9 units.

JOURNALISM

22–a, 23–b, 24–c. (See Electrical Engineering 22–a, 23–b, 24–c.) Mr. Lloyd.

76–c. Writing for Publication. A practical study of the preparation of articles for the newspapers and magazines. It is for all whose vocation will demand frequent writing for publication, and a preparation in part for those who intend to take up newspaper work after graduation. It does not cover the entire field of journalism, but the student will be instructed in the duties of a reporter and be given constant practice in writing news stories. Mr. Scudder.

Elective for those who have attained a grade of 75 or higher in English 3–c or 3.5–c. Lec. or rec., 3 hrs.; prep., 4½ hrs.; 7½ units. (Formerly given as 76–a.)

FOR SENIOR, ADVANCED AND GRADUATE STUDENTS ONLY

84–a, 85–b. The Teaching of High School English. The subject is especially designed for those who major in English. It offers training in the teaching of oral and written composition, poetry, prose fiction, the essay, drama and oration. Attention is given to outside reading, the school paper, dramatics, and other aids to the teaching of English. Mrs. Smith.

Prerequisites: English 6–c and Education 15–c. Elective for Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

85–a, 86–b, 87–c. The English Language. The subject deals with the history and development of the English language from Old English to that of today. Open only to Seniors and graduates majoring in English. Mr. Richards.

85–a is required; 86–b and 87–c are elective. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

ENTOMOLOGY

WALTER C. O'KANE, *Professor*
PHILIP R. LOWRY, *Assistant Professor*

Major: 150 time units from the Department of Entomology and from related departments, especially Chemistry, Botany, and Zoölogy, exclusive of elementary subjects.

Professional Training: The Department of Entomology is prepared to offer professional training in Entomology. For adequate training a broad foundation as well as thorough specialization is necessary. To accomplish this the period of training should extend beyond the regular four years of undergraduate college work. Students who desire to specialize in Entomology are requested to consult the Head of the Department in order to plan an adequate and comprehensive sequence of studies.

1–a. Principles of Economic Entomology. The relation of the structure and classification of insects to methods of insect control. The preparation and application of insecticides spray, machinery and appliances. Mr. O'Kane and Mr. Lowry.

Required of Sophomores in Agriculture. Elective for Sophomores, Juniors and Seniors in other courses. Lec., 3 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 10 units.

2–a. Insects of Orchard and Garden. The application of methods of insect control to typical injurious species. Studies in the life histories and habits of important insect pests of orchard, garden and certain field crops. Adapted especially for students in Horticulture and in General Agriculture. Mr. O'Kane.

Prerequisite: Entomology 1–a. Required of Juniors in Horticulture. Elective for other Juniors and Seniors. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units. (Given in alternate years beginning with 1926–27.)

3–b. Insects of Domestic Animals. The insect enemies of domestic livestock; the life histories, habits and means of control. Adapted especially for students in Animal Husbandry. Mr. O'Kane.

Prerequisite: Entomology 1–a. Required of Seniors in Animal Husbandry. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units. (Given in alternate years beginning 1927–28.)

4–c. Household Insects. Medical Entomology. The life histories, habits and means of control of insects of the household and of stored products. The relation of insects to disease. Adapted especially for students in Home Economics. Mr. O'Kane.

Required of Seniors in Institutional Management. Elective for Sophomores, Juniors and Seniors. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

5–a, 6–b, 7–c. Advanced Economic Entomology. Detailed studies of problems involved in applied entomology. The literature of economic entomology. Investigational methods. Practice in arranging projects. Original investigations in the life history and habits of one or more injurious species. Adapted for advanced students. Mr. O'Kane and Mr. Lowry.

Required of students specializing in Entomology. Open to students only by permission of head of department. Hours and units to be arranged.

8–a, 9–b, 10–c. Advanced Economic Entomology. Continuation of Entomology 5–a, 6–b, 7–c, for students who are specializing in the subject. Mr. O'Kane and Mr. Lowry.

Open to students only by permission of head of department. Required of students specializing in Entomology. Hours and units to be arranged.

13–c. Forest Insects. Studies in the life histories and habits of the more destructive forest insects and the means of their control. Especially adapted for students in forestry. Mr. O'Kane.

Prerequisite: Entomology 1–a. Required of Juniors in Forestry. Elective for others. Lec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units. (Given as 8–c prior to 1922–23.)

For subjects primarily for graduate students see Catalog of the Graduate School.

FORESTRY

KARL W. WOODWARD, *Professor*
CLARK L. STEVENS, *Assistant Professor*

1–a. **Principles of Forestry.** This subject is intended to meet the needs of students of agriculture who desire to obtain a general knowledge of the principles of forestry. The value of forests, their protection, their utilization, their improvement and regeneration, are discussed with special reference to New Hampshire conditions. Mr. Woodward.

Required of all Freshmen in Agriculture. Lec., 3 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 9 units.

2–a. **Principles of Forestry.** The same as Forestry 1–a, except that no laboratory work is included. Mr. Woodward.

Elective for any student. Lec., 3 hrs.; prep., 3 hrs.; 6 units.

3–a. **Dendrology.** (Formerly 2–a.) This course deals with the characteristics of our native tree species, and with the identification of trees in the field and from specimens. Mr. Stevens.

Required of Sophomores in Forestry. Elective for others. Lec., 2 hrs.; lab., 2½ hrs.; prep., 2½ hrs.; 7 units.

4–b. **Wood Identification.** (Formerly 2.5–b.) A study of the uses and grades of lumber, the physical properties and the identification of the commercially important woods. Each student is required to provide himself with a hand lens. Mr. Stevens.

Required of Sophomores in Forestry. Elective for others. Lec., 2 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 9 units.

5–a. **Silvics.** (Formerly 3–a.) This course considers the effect of the environment of the forests: the factors which influence the growth of trees and stands. The field work consists of detailed as well as general studies of forest vegetation. Toumey's "Foundations of Silviculture" is used as a text. Mr. Stevens.

Required of Sophomores in Forestry. Elective for others with approval of the instructor. Lec., 2 hrs.; lab., 2½ hrs.; prep., 5½ hrs.; 10 units.

6–b. Applied Silviculture. (Formerly 4–b.) Deals with the application of silvicultural methods,—cutting systems, intermediate cuttings, fire protection, etc., in the various forest regions of the United States. Each student is required to provide himself with an axe and a pair of snowshoes. Hawley's "Practice of Silviculture" is used as a text. Mr. Stevens.

Required of Sophomores in Forestry. Elective for others with approval of the instructor. Lec., 2 hrs.; lab., 2½ hrs.; prep., 5½ hrs.; 10 units.

7–c. Forest Planting. (Formerly 5–c.) Covers the subject of artificial regeneration: seeding and planting, forest nurseries, etc. Toumey's "Seeding and Planting" is used as a text. Mr. Stevens.

Required of Sophomores in Forestry. Elective for others upon approval by the instructor. Lec., 2 hrs.; lab., 2½ hrs.; prep., 5½ hrs.; 10 units.

8–b. Forest Mensuration. (Formerly 6–b.) Principles and methods of making forest maps; the measurement of forest products; theory and practice in estimating the contents of trees and stands. Each student is required to provide himself with a box compass. Chapman's "Forest Mensuration" is used for a text. Mr. Stevens.

Required of Juniors in Forestry. Elective for others with approval of the instructor. Lec., 2 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 9 units.

9–c. Forest Mensuration. (Formerly 6.5–c.) A study of the growth and yield of the commercial tree species of New England, and the prediction and valuation of future yields. Chapman's "Mensuration" is used as a text. Mr. Stevens.

Prerequisite: Forestry 8–b. Required of Juniors in Forestry. Elective for others with approval of the instructor. Lec., 2 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 9 units.

10–a, 11–b, 12–c. Forest Management. The management of woodlots and large forest tracts for the purpose of gaining the largest immediate and future returns; and the preparation of working plans to coördinate the lumbering, protection, improvement, and regeneration of forests so as to make them yield the highest net returns. Mr. Woodward.

Prerequisites: Forestry 3–a, 7–c, and 9–c. Required of Seniors in Forestry. Lec., 1 hr.; lab., 5 hrs.; prep., 2 hrs.; 8 units.

13–a, 14–b, 15–c. Advanced Forestry. Thesis course; work to be arranged according to the needs of individual students. Mr. Woodward.

Prerequisites: Forestry 3–a, 7–c, and 9–c. Required of Seniors in Forestry. Lec., 3 hrs.; prep., 5 hrs.; 8 units.

16–b. Logging. (Formerly 13–b.) A study of the methods and costs of logging and milling in the chief lumber producing regions of the United States. Special emphasis is placed upon New England conditions. Attendance on scheduled instruction trips to study portable mills is required for credit in this course. Bryant's "Logging" is used as a text. Mr. Stevens.

Prerequisite: Forestry 8–b. Required of Juniors in Forestry. Elective for others. Lec., 2 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 9 units.

17–c. Forest Products. The various types of forest products, their manufacture and marketing, together with special problems of the lumber business. Attendance on scheduled instruction trips to study wood-using industries is required for credit in this course. Brown's "Forest Products" is used as a text. Mr. Stevens.

Prerequisite: Forestry 16–b. Required of Juniors in Forestry. Elective for others. Lec., 3 hrs.; prep., 4 hrs.; 7 units.

18–b, 19–c. Practice of Forestry. The history of forestry, its development and present status in different countries; the work of the federal government and its management of the national forests; state forest policies; the lumber industry in the United States. Lectures and special readings. Mr. Woodward.

Required of Seniors in Forestry. Lec., 3 hrs.; prep., 5 hrs.; 8 units.

20–a, 21–b. National Forest Administration. The principles and methods employed on the National forests. "The Use Book" is used as a text. Mr. Woodward.

Prerequisites: Forestry 3–a, 7–c, and 9–c. Required of Seniors planning to enter the U. S. Forest Service. Lec., 3 hrs.; prep., 4 hrs.; 7 units.

22–s. Summer Camp. During the summer camp the following projects are carried out: A complete forest survey of a definitely outlined area; problems in forest engineering and forest ecology; instruction and practice in camp cooking and woodcraft. The details of running the camp and directing the survey are handled by the students as part of the

instruction. Opportunity is also given for investigative work in preparation for the senior thesis course. Mr. Stevens.

Required of Juniors in Forestry. Lec., 3 hrs.; field and office work, 42 hrs. per week for 6 weeks; 20 units.

23–a. **Farm Woodlot Problems.** This course is intended primarily to cover the methods of teaching Farm Forestry in agricultural high schools, but may be changed to meet the needs of the individual student. Mr. Stevens.

Prerequisite: Forestry 1–a. Required of Seniors in Teacher Training. Lec., 2 hrs.; lab., 2½ hrs.; prep., 2½ hrs.; 7 units.

GEOLOGY

C. Floyd Jackson, *Professor*
George W. White, *Instructor* (In charge)
T. Ralph Meyers, *Instructor*

Major: 150 time units of departmental and related departmental subjects, exclusive of elementary subjects.

1–a, 2–b, 3–c. **Elementary Geology.** The study of the earth and its history. A consideration of the forces that have operated to produce land forms and structures, and a discussion of the materials of the earth's crust. These facts will then be applied to the interpretation of past geologic events, together with their effect on the development of life forms. It is recommended that students take at the same time Geology Laboratory 4–a, 5–b, 6–c. Mr. White and Mr. Meyers.

A unit course, to be started only with 1–a. Freshman subject. Lec. or rec., 3 hrs.; prep., 5 hrs.; 8 units.

4–a, 5–b, 6–c. **Elementary Geology Laboratory.** A laboratory course running essentially parallel to the class work in 1–a, 2–b, 3–c. A much clearer conception of geologic facts will be gained if the laboratory work is carried in connection with the lectures. Mr. White and Mr. Meyers.

Prerequisites: Geology 1–a, 2–b, 3–c, or carried as a parallel subject. Freshman subject. Lab., 2 hrs.; prep., 1 hr.; 3 units.

7–a, 8–b, 9–c. **Economic Geology.** A discussion of the metals, their ores, and their occurrence, and consideration of the types of coal and their occurrence in the coal fields of the United States. A brief study of petroleum, the structures in which it occurs, and the distribution in the oil fields of the world, especially those of the United States. Lime,

cement, building stones and related products will be treated briefly 8–b, Mr. White; 9–c, Mr. Meyers.

Prerequisites: Geology 15–c or 18–c, or consent of the instructor. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units. (7–a not given in 1928–29.)

10–a, 11–b, 12–c. Economic Geological Laboratory. Laboratory exercises for the purpose of demonstrating and becoming familiar with the various minerals, ores, and rocks discussed in Geology 7–a, 8–b, 9–c

Prerequisites: Geology 7–a, 8–b, 9–c carried as a parallel subject. Junior subject. (Not given in 1928–29.) Lab., 2 hrs.; prep., 1 hr.; 3 units.

13–a, 14–b, 15–c. Paleontology. A study of the history, development, and morphology of the various groups of plants and animals as recorded by fossils found in the rocks of the earth's crust. More attention will be given to the development of animals, than to plants. (Not given in 1928–29.) (Previously entitled Historical Geology.)

Prerequisites: Zoölogy 3–c and Geology 3–c. Lec. or rec., 2 hrs.; lab., 2 hrs.; prep., 6 hrs.; 10 units.

16–a. Advanced Physiography. A more complete and detailed study of land forms and erosion cycles, glaciation, work of the ocean, and related forces, together with their effects on the various physiographic provinces of North America. Mr. White.

Prerequisites: Geology 3–c and 6–c. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

17–b. Structural and Dynamic Geology. A consideration of the structure of the earth's crust, metamorphism, and the forces that have operated to produce them. Mr. White.

Prerequisites: Geology 3–c and 6–c. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

18–c. Historical Geology. A study of the development of the earth and its life, using the facts gained in the previous study of physical geology. Mr. White.

Prerequisites: Geology 17–b and Zoölogy 3–c, or consent of instructor. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

20–b. General Geology. A general introductory course in physical geology, with emphasis on the formation and types of soils, and other geologic processes more or less related to agriculture. Mr. Meyers.

Required of Sophomores and Freshmen in Chemistry and in Agriculture. Lec. or rec., 3 hrs.; prep., 5 hrs.; 8 units.

100–a. Building Stones and Clay Products. A study of the origin and occurrence of the various types of building stones. A consideration of the various types of clays, and the heavy-wares of constructional importance manufactured from them. Mr. White.

Required of Seniors in Architectural Construction. Lec. or rec., 1 hr.; lab., 2 hrs.; prep., 3 hrs.; 6 units.

50–a, 51–b, 52–c. Geological Problems. A study of special problems, by means of conferences, assigned readings and field work. The work will be fitted to the needs of the individual students. Mr. White and Mr. Meyers.

Prerequisite: Permission of the instructor. Credits to be arranged.

HISTORY

DONALD C. BABCOCK, *Professor*
THORSTEN KALIJARVI, *Assistant Professor*
ARTHUR W. JONES, *Assistant Professor*
ALLAN B. PARTRIDGE, *Instructor*
CHARLES W. PATTEE, *Graduate Assistant*

Major: In conference with the head of the department, 150 units in this and related departments, exclusive of elementary subjects. History 101–a, 102–b, 103–c will not be accepted for the major course, but students majoring in this department will be expected to have taken those three subjects in the Freshman year.

Graduate Work: For subjects primarily for graduate work, see Catalog of the Graduate School.

In the subjects in History an important place is given to historical reading carried on in the reference room. In some cases a considerable part of the work is written.

Students electing subjects in History are referred to the introductory note under Social Science.

The statements as to prerequisites, etc., below are for Liberal Arts students. Agricultural and Technology students should consult the head of the department.

SUBJECTS OPEN TO FRESHMEN AND OTHERS

The following three subjects constitute a basic course, required of students majoring in history, and recommended for all students before

taking other history subjects. Beginning at about 1500, these three subjects carry the general history of European civilization down to about 1914. The period of the World War is not covered in this study

101–a, 102–b, 103–c. Introduction to Modern Europe. Mr. Jones.

Elective for Freshmen and Sophomores who are taking or who have had Social Science parallel with it, term by term. Open to Juniors and Seniors only by special permission. Required of students majoring in history. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

SUBJECTS NOT OPEN TO FRESHMEN

History subjects subsequent to those designed especially for the freshman year are arranged in two groups, as indicated below. Sophomores taking any of these subjects must choose one or the other of the two groups, and follow it, if further work is done in history, through six term subjects. In other words one group or the other must be followed at least as far as through 112–c or 115–c. This rule takes precedence over the statements concerning eligibility and prerequisites for individual subjects.

It is suggested, though the student is free to choose, that Group I should be elected by those whose major interest is in Accounting, Economics, Education, Home Economics, Physical Education, Political Science, Spanish, or Zoölogy. Those particularly interested in English, French, German, Latin, Music, Psychology, or Sociology are likely to find Group II more useful to them.

It is permissible to take work in both groups at the same time.

Students majoring in history are urged, though not compelled, to take 75 units in one group and 25 units in the other.

GROUP I

104–a. The United States from 1800 to 1837. A study of the early phases of the nineteenth century national epic of democracy and expansion. Mr. Babcock.

Elective for Sophomores who have had or are taking 9 units of Social Science, and for Juniors and Seniors without prerequisite. Lec. or rec., 2 hrs.; prep., 7 hrs.; 9 units.

105–b. The United States from 1837 to 1877. Deals with "manifest destiny" and the great interlude of the slavery struggle. Mr. Babcock.

Elective for Sophomores who have had or are taking 9 units of Social Science, and for Juniors and Seniors without prerequisite. Lec. or rec., 2 hrs.; prep., 7 hrs.; 9 units.

106–c. The United States since 1877. An attempt to understand the present better through an appreciation of the recent past in our national life. Mr. Babcock.

Elective for Sophomores, Juniors, and Seniors without prerequisite. Lec. or rec., 2 hrs.; prep., 7 hrs.; 9 units.

110–a. English Colonies in America. A study of European backgrounds, charters, local developments, and colonial society previous to 1763. Mr. Partridge.

Prerequisite: 9 units of History. Elective for Juniors and Seniors, and for Sophomores who are taking 104–a or 113–a. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

111–b. Period of the American Revolution. Follows the tracing of a separate orbit by the American people, the winning of independence, and the constitution-making period down to 1800. Mr. Partridge.

Prerequisite: 9 units of History. Elective for Juniors and Seniors, and for Sophomores who have had 104–a or 113–a, or are taking 105–b or 128–b, subject to general rule as to Groups I and II. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

112–c. Spanish and Latin-American History. A survey of the Iberian peninsula and its history as a background, the Spanish, and Portuguese colonial epoch, the separation from Europe, the national characters and resources of the Latin-American states, and their relations with our country. Mr. Partridge.

Prerequisite: 9 units of History. Elective for Juniors and Seniors, and for Sophomores who are taking 106–c or 129–c, or who have had any one of the following: 104–a, 105–b, 113–a, 128–b. Subject to general rule as to Groups I and II. Lec. or rec., 3 hrs.; prep.; 6 hrs.; 9 units.

124–c. Diplomatic History of Europe since 1815. A subject for more advanced students of history, with the purpose of acquainting them in a general way with the diplomatic problems growing out of European events in the century between 1815 and 1914. Mr. Jones.

Prerequisite: 21 units of History for Juniors, 7 units for Seniors. Elective for Juniors and Seniors. In meeting the requirements for Group I of the history subjects, 124–a may be substituted for 110–a. Lec. or rec., 1 hr.; prep., 6 hrs.; 7 units.

GROUP II

113–a. **The Ancient Orient.** The story of the first civilizations and the cultural accumulations of ancient times, as revealed largely by the archaeologist's spade, and viewed through the "window opening behind Greece and Rome." In this and in the five following subjects, architectural development will receive special emphasis with a view to revealing the spirit of the civilization studied. Mr. Partridge.

Elective for Sophomores who have had or are taking 9 units of Social Science and for Juniors and Seniors without prerequisite. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

128–b. **Greece.** The aim in this subject is to bring home to the student the richness of content of Grecian civilization, and its cultural value for the modern world. Fully as much attention is given to our intellectual and artistic inheritance from the Greeks as to the events in their history. Mr. Partridge.

Elective for Sophomores who have had or are taking 9 units of Social Science, and for Juniors and Seniors without prerequisite. Required of Freshmen in Architecture. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

129–c. **Rome.** A review of the process by which Rome acquired the tutelage of the world, followed by an analysis of the Empire as a summation of world history, and of the decline leading to the dark ages. Mr. Partridge.

Elective for Sophomores, Juniors, and Seniors without prerequisite. Required of Freshmen in Architecture. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

114–a. **The Middle Ages.** In this subject the principal aim is to pass the pageant of medieval history in review before the student. Actual events and institutional achievements are emphasized to show the medieval world as one of normal human beings working out their peculiar social problems. The study is carried as far as the year 1000. Mr. Jones.

Prerequisite: 7 units of History. Elective for Juniors and Seniors, and for Sophomores who are taking 104–a or 113–a. Required of Sophomores in Architecture. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

130–b. **Later Medieval History.** Some attention is here given to "the medieval mind" and the attitude toward life which has served to set off things medieval from things modern. The narrative is followed up to the fourteenth century. Mr. Jones.

Prerequisite: 7 units of History. Elective for Juniors and Seniors, and for Sophomores who have had 104–a or 113–a, or who are taking 105–b or 128–b, subject to general rule as to Groups I and II. Required of Sophomores in Architecture. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

115–c. Renaissance. The Renaissance as a regathering of past values and as a forward movement introducing the Modern Period is presented in this subject. The purpose is to present as much as possible of the cultural and liberal sources of modern life. Mr. Jones.

Prerequisite: 7 units of History. Elective for Juniors and Seniors, and for Sophomores who are taking 106–c or 129–c, or who have had any of the following: 104–a, 105–b, 113–a, 128–b, subject to general rule as to Groups I and II. Required of Sophomores in Architecture. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

114.5–a, 130.5–b, 115.5–c. Medieval and Renaissance History. Similar to 114–a, 130–b, 115–c, but adapted to the needs of architectural students. (Not open to other students.) Mrs. Alexander.

Lec., 3 hrs.; prep., 6 hrs.; 9 units.

121–a, 122–b, 123–c. Intellectual History. A consideration in three successive terms of the development of the Western European mind. The subject will deal with the following chief topics: the background of intellectual history, Hellenism, the Middle Ages, Aristotle and the Medieval universities, the decline of scholasticism, the birth of the modern scientific spirit, and the chief novel elements in contemporary intellectual life. Mr. Kalijarvi.

Prerequisite: 21 units of History for Juniors, 7 units for Seniors. Elective for Juniors and Seniors. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

Elective for Students in Group I or Group II

107–a. England to 1485. A survey of the events of medieval English history, with due attention to the social side, is used as a basis for a study of the growth of the English constitution. Mr. Partridge.

Elective for Juniors and Seniors and for Sophomores who are taking 104–a or 113–a, except that Juniors following Group II must also take or have taken 114–a. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

108–b. England from 1485 to 1714. A continuation of 107–a, with somewhat more attention to social and economic affairs. Mr. Partridge.

Elective for Juniors and Seniors, and for Sophomores who have had 104–a or 113–a, or are taking 105–b or 128–b, except that Juniors following Group II must also take or have taken 130–b. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

109–c. England since 1714. The emphasis in this subject is divided between the continued evolution of England's domestic affairs and her part in the expansion of Europe. Mr. Partridge.

Elective for Juniors and Seniors, and for Sophomores who are taking 106–c or 129–c, or who have had any one of the following: 104–a, 105–b, 113–a, 128–b, except that Juniors following Group II must also take or have taken 115–c. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

132–a, 133–b, 134–c. History from the Teacher's Viewpoint. These subjects deal with methods of teaching history, historical geography, theories of historic interpretation, etc. Mr. Babcock.

Prerequisite: 75 units in the social sciences, including 25 of History. Designed for students majoring in History. Elective for Juniors and Seniors on consultation with the instructor. Lec. or rec., 2 hrs.; prep., 8 hrs.; 10 units.

136–a, 137–b, 138–c. Recent and Contemporary History and Problems in Research. A study of the trend of events in the world since 1914, and problems arising from the World War. Mr. Babcock.

Offered under the same terms and restrictions as 132–a, 133–b and 134–c. Individual research and conferences with the instructor. Time units to be arranged.

139–a, 140–b, 141–c. Seminar on the Reformation and Allied Subjects. Seminar discussions centering around some of the great personalities in Christian history, especially of the Reformation period. Mr. Babcock.

Open to Juniors and Seniors by permission of instructor. Discussion, 2 hrs.; prep., 8 hrs.; 10 units.

131–b. History of the Far East. The subject will attempt to round out the usual historic knowledge by taking up the history of Asia outside the range of "western" history. Connection will be made with occidental affairs in recent times, however, and notice will be taken of the possible future significances of the eastern culture for the west. Mr. Jones.

Prerequisite: 21 units of History for Juniors, 7 units for Seniors. Elective for Juniors and Seniors. Lec. or rec., 2 hrs.; prep., 7 hrs.; 9 units.

142–a. **History of Eastern Europe.** Emphasizes Russia, Poland, Lithuania, the Balkans, etc. Mr. Jones.

Prerequisite: 15 units of History for Juniors, 7 units for Seniors. Elective for Juniors and Seniors. Lec. or rec., 1 hr.; prep., 6 hrs.; 7 units.

150–a, 151–b, 152–c. **Honors Course in History.** Majors in this department, with senior standing, who are of exceptional ability, and who are abreast of the institutional requirements as to major, minor, groups, and required subjects, may be admitted. The Honors Course student will do all or most of his work under the supervision of the department head. The work will be so planned as to free him from the usual program of subjects, time units, class attendance, etc. Greater freedom within a selected field of history will be the object. Weekly meetings with the department head and such other instructors as may be concerned with his work from time to time.

HOME ECONOMICS

HELEN F. MCLAUGHLIN, *Professor*
CARRIE A. LYFORD, *Assistant Professor*
IRMA G. BOWEN, *Assistant Professor*
HELEN W. LEIGHTON, *Instructor*

CLOTHING AND TEXTILES

1–a. **Textiles.** A study of textile fibers and materials from the viewpoint of the consumer.

Required of Home Economics Freshmen. Elective for other students. Lec. or rec., 1 hr.; lab., 4 hrs.; prep., 4 hrs.; 9 units.

2–b, 3–c. **Elementary Clothing.** Problems in clothing construction.

Required of Home Economics Freshmen. Elective for other students. Lec. or rec., 1 hr.; lab., 4 hrs.; prep., 4 hrs.; 9 units.

4–a, 5–b. **Advanced Clothing.** Problems in pattern construction and their application to clothing projects.

Prerequisites: H. E. 1–a, 2–b, 3–c. Required of Home Economics Juniors in Teacher Training and Extension. Elective for other students. Lab., 4 hrs.; prep., 2 hrs.; 6 units.

7–a. **Dress Design.** A study of the principles of design as applied to costume.

Prerequisites: H. E. 4–a, 5–b. Required of Home Economics Seniors in Teacher Training and Extension. Elective for other students. Lec. or rec., 2 hrs.; prep., 2 hrs.; lab., 2 hrs.; 6 units.

8–c. Applied Dress Design. Application of the principles of design to costume.

Prerequisites: H. E. 7–a. Required of Home Economics Seniors in Teacher Training and Extension. Elective for other students. Lab., 2 hrs.; prep., 3 hrs.; conference, 1 hr.; 6 units.

9–a–b–c. Tailoring. Problems in making tailored garments, outlined and arranged by conferences with instructor.

Prerequisites: Home Economics 4–a, 5–b. Elective for all students. 3–6 units.

12–b. History of Costume. A survey of the changes that have taken place in the development of costume with a consideration of the historical and social periods that have been contributing factors.

Elective for all students. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units. (Formerly given as 12–c.)

15–c. Millinery. Discussion and practice of the principles involved in making, fitting and trimming hats.

Required of Home Economics Juniors in Teacher Training and Extension. Elective for other students. Lab., 4 hrs.; prep., 2 hrs.; 6 units.

16–a–b–c. Elementary Weaving. Making of hand-woven rugs.

Prerequisite or parallel. H. E. 1–a. Elective for all students. Laboratory by arrangement with instructor. 1 unit.

19–a–b–c. Advanced Weaving. Plain and pattern weaving on hand looms.

Prerequisite: H. E. 16–a, b or c. Elective for all students. Laboratory by arrangement with instructor. 2–4 units.

23–b. Embroidery. The history of embroidery with attention given to the sources and development of good design and an analysis of the stitchery used in its application to various articles.

Elective for all students. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

FOOD AND NUTRITION

52–a, 53–b, 54–c. Foods and Cookery. A study of foods and their healthful and economical preparation. Mrs. McLaughlin.

Prerequisite: Chemistry 8–c. Required of Home Economics Sophomores. Lec. or rec., 1 hr.; lab., 5 hrs.; prep., 3 hrs.; 9 units.

57–b. Meal Preparation. The selection of foods and their preparation and serving in typical family meals. Mrs. McLaughlin.

Prerequisite: Home Economics 54–c. Required of Home Economics Juniors. Lec. or rec., 1 hr.; lab., 4 hrs.; prep., 1 hr.; 6 units.

58–b. Experimental Cookery. Comparative experimental cookery. Assignments in individual project work. Mrs. McLaughlin.

Prerequisite: Home Economics 54–c. Elective for Home Economics Juniors and Seniors. Lab., 4 hrs.; prep., 2 hrs.; 6 units.

60–c. Dietetics. Application of the principles of human nutrition to varying physiological, social and economic conditions. Mrs. McLaughlin.

Prerequisite: Home Economics 54–c. Required of Home Economics Juniors. Lec. or rec., 2 hrs.; lab., 4 hrs.; prep., 3 hrs.; 9 units.

63–c. Dietetics. Special course given for Women Students majoring in Physical Education. Mrs. McLaughlin.

Lec. or rec., 2 hrs.; lab., 2 hrs.; prep., 2 hrs.; 6 units.

65–b. Camp Cookery. A study of the principles of cookery as especially adapted to camp life. Mrs. McLaughlin.

Elective for all men students. (Given in alternate years—given in 1929.) Lec. or rec., 1 hr.; lab., 2 hrs.; 3 units. Class limited to 20.

67–a, 68–b, 69–c. Food Selection and Preparation. A general course in the healthful and economical selection and preparation of foods. Mrs. McLaughlin.

Elective for students not majoring in Home Economics. Lec. or rec., 1 hr.; lab., 5 hrs.; prep., 3 hrs.; 9 units.

HOME MANAGEMENT

82–a. Home Management. A study of the organization of the house as a home, and of the principles involved in its care and management. Miss Lyford.

Required of Home Economics Juniors. Elective for other students. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

84–c. House Furnishing. Consideration of historic, artistic, economic and social factors involved in the furnishing of the home. Miss Lyford.

Required of Home Economics Sophomores. Elective for other students. Lec. or rec., 2 hrs.; prep., 4 hrs.; 6 units.

88–a–c. Home Management House. Managerial and dietetics problems relating to home and family life worked out by students in residence in the Home Management House. Mrs. McLaughlin.

Prerequisites: Home Economics 54–c, 57–b, and 82–a. Required of Home Economics Seniors in Teacher Training and Extension Course. Elective for other Home Economics Seniors. Lec. or rec., 2 hrs.; lab., 16 hrs.; 18 units.

THE FAMILY

70–c. The Child. A survey of the present status of child study and of the need of the adult for an increased knowledge of the factors involved in child care. Miss Lyford.

Required of Home Economics Juniors. Elective for Liberal Arts Juniors and Seniors. Lec. or rec., 2 hrs.; prep., 4 hrs.; 6 units. Prerequisite: knowledge of the principles of Psychology.

72–a. The Family. Consideration of the effects of changing society upon home and family life. Miss Lyford.

Required of Home Economics Juniors. Elective for Liberal Arts Juniors and Seniors. Lec. or rec., 2 hrs.; prep., 4 hrs.; 6 units.

INSTITUTIONAL MANAGEMENT

91–a, 92–b. Institutional Management. A study of the organization, equipment, and management of typical institutions and of the buying, planning, preparing, and serving of meals for large groups. Field trips to study equipment and management of institutions of different types are included in the course. Mrs. Leighton.

Prerequisite: Home Economics 54–a, 57–b. Required of Seniors in Institutional Management Course. Lec. or rec., 2 hrs.; prep., 4 hrs.; 6 units.

94–a, 95–b, 96–c. Institutional Practice. Practical experience of different types in the kitchens and serving rooms of the University Commons. Mrs. Leighton.

Prerequisite or parallel: 91–a and 92–b. Required of Seniors in Institutional Management Course. Lab., 8 hrs.; prep., 1 hr.; 9 units.

HOME ECONOMICS EDUCATION

102–c. Vocational Opportunities for Home Economists. A study of the vocational opportunities open to women and girls who have had training in home economics subjects. Miss Lyford.

Required of Home Economics Freshmen. Elective for other students. Lec. or rec., 1 hr.; prep., 2 hrs.; 3 units.

103–a, 104–b, 105–c. Project in Home Economics. This course provides opportunity for the working out by the student of some project in home economics that supplements the work in the required courses. Miss Lyford.

Elective for Home Economics Juniors and Seniors. Conf., 1 hr.; prep., 2–5–8 hrs.; 3–6–9 units.

106–a. Home Economics Education. A consideration of the Home Economics Course as presented in the elementary and high school. Miss Lyford.

Required of Seniors in Home Economics Teacher Training Course. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

107–b. Home Economics Teaching. Supervised cadet teaching in selected high schools in the state. Miss Lyford.

Required of Seniors in Home Economics Teacher Training Course. Nine weeks or more teaching supplemented by conference sessions at the University. Lab., 25 hrs.; prep., 25 hrs.; 50 units.

108–c. Home Economics Education. A continuation of Home Economics 106–a, basing discussions on the experience of students during the teaching of the previous term. Miss Lyford.

Required of Seniors in Home Economics Teacher Training Course. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

HORTICULTURE

GEORGE F. POTTER, *Professor*
J. RAYMOND HEPLER, *Assistant Professor*
L. PHELPS LATIMER, *Instructor*
JAMES MACFARLANE, *Instructor*

1–c. Vegetable Gardening. This subject is designed to give a working knowledge of the various phases of commercial vegetable production. It includes a study of garden soils, testing and planting of seeds, selection of varieties with reference to conditions in the state,

construction and management of hotbeds and cold frames, and the fertilization and irrigation of the garden. Mr. Hepler.

Required of Sophomores in Agriculture. (Given in the last half of the term.) Lec., 3 hrs.; lab., 2 hrs.; prep., 5 hrs.; 5 units.

2–a. Floriculture: Greenhouse Construction and Management. This subject treats of modern methods of greenhouse work and the more important plants grown under glass. Varieties, culture, marketing, and enemies of greenhouse plants are studied. Each student is required to do practical work in propagating, potting, watering and ventilating plants. A study is made of the history and development of different types of greenhouses, including methods of heating and general management. Mr. Macfarlane.

Elective for any student. Lec., 2 hrs.; lab., 2 hrs.; prep., 3 hrs.; 7 units.

3–c. Elementary Pomology. A brief consideration of some fundamental principles of fruit growing such as location, choice of site, adaptability of soil for fruit growing, choice of varieties, soil management, planting of orchards, pruning, spraying and thinning. Harvesting and marketing are very briefly discussed. Mr. Potter.

Required of Sophomores in Agriculture. (Given in the first half of the term.) Lec., 3 hrs.; lab., 2 hrs.; prep., 5 hrs.; 5 units.

4–c. Viticulture and Small Fruit Culture. A comprehensive study of the grape and small fruits, such as the strawberry, raspberry, blackberry, currant and gooseberry. Each fruit is studied with reference to its history, propagation, planting, pruning, injurious insects and diseases, picking and marketing. Mr. Latimer.

Elective for any student. Lec., 2 hrs.; lab., 2 hrs.; prep., 3 hrs.; 7 units.

5–a. Systematic Survey of Fruits and Vegetables. A study of the more important species of fruits and vegetables and their botanical relationships. Mr. Latimer and Mr. Hepler.

Required of Seniors in Horticulture. Lec., 2 hrs.; prep., 3 hrs.; 5 units.

6–b. Advanced Pomology. A detailed study of fundamental principles and experimental data and their application and relation to orchard problems such as growth and rest period in fruit plants, water requirements, soil management, pruning, fruit bud formation, fruit setting,

pollination, thinning, winter injury, and the quality and keeping period of fruits in storage. Mr. Latimer.

Prerequisite: Horticulture 3–c. Required of Seniors in Horticulture who do not elect Horticulture 17–a. Elective for other students. Lec., 3 hrs.; prep., 5 hrs.; 8 units.

7–c. Landscape Gardening: General Principles. A study of the principles involved in ornamental and landscape gardening. Special attention is given to the beautifying of home surroundings. Mr. Hepler.

Required of Seniors in Horticulture. Elective for other students. Lec., 3 hrs.; prep., 6 hrs.; 9 units.

7.5–c. Landscape Gardening: Laboratory Design. Practice in laying out and planting home and public grounds. Mr. Hepler.

Recommended elective for all students taking 7–c. Required of Seniors in Horticulture. Lab. 2 hrs.; 2 units.

9–b. Floriculture: Conservatory and Decorative Plants. A study of the classification, propagation, and culture of the tropical foliage and flowering plants such as ferns, palms, orchids, etc., for use in the conservatory and home. Mr. Macfarlane.

Elective for any student. Lec., 1 hr.; lab., 2 hrs.; prep., 2 hrs.; 5 units.

9.5–c. Floriculture: The Outdoor Flower Garden. A study of flowering annuals, herbaceous perennials, bulbs and bedding plants, with instructions in their propagation, culture and use in the beautifying of the home grounds. Lectures, laboratory, and field trips. Mr. Macfarlane.

Elective for any student. Lec., 1 hr.; lab., 2 hrs.; prep., 2 hrs.; 5 units.

10–b. Evolution and Improvement of Plants. The application of the principles of genetics to agricultural plant breeding. Hybridization and selection are studied as means of improving horticultural varieties of plants. It is preferably preceded by genetics (Zoölogy 32–a). Mr. Potter.

Required of Juniors and Seniors in Horticulture. Elective for other students. Lec., 2 hrs.; prep., 3 hrs.; 5 units. (Given in alternate years beginning 1927–28.)

11–b. Vegetable Forcing. A subject dealing with the study of special vegetables as grown under glass. Emphasis is placed upon the

commercial phases of the work, including varieties, culture, and marketing. Each student is required to grow crops from seeding to maturity. Mr. Hepler.

Elective for all students. Lec., 2 hrs.; lab., 2 hrs.; prep., 3 hrs.; 7 units.

12–a, 12.5–b. **Horticultural Seminar.** A review of the recent horticultural literature and methods of investigational work. Mr. Potter and department staff.

Required of Seniors in Horticulture. Other students must obtain permission to enter. Lec., 2 hrs.; prep., 2 hrs.; 4 units.

13–c. **Vegetable Gardening.** This subject takes up the problems of home and school gardening. It includes the study of methods of laying out and handling home, school and community gardens, choice of crops and varieties, their adaptation to local soil conditions, and the culture, displaying and judging of home garden vegetables. Mr. Hepler.

Elective for women students. Lec., 2 hrs.; lab., 2 hrs.; prep., 2 hrs.; 6 units.

14–a, 15–b, 16–c. **Advanced Horticulture.** Subject matter in any phase of horticulture with laboratory practice if desirable to meet the needs of special students or groups of students may be taken by arrangement with the head of the department. Mr. Potter and staff.

Elective for Juniors and Seniors. Students must obtain permission to register from the head of the department. Hours and units to be arranged.

17–a. **Commercial Vegetable Gardening.** This subject deals with the management of commercial vegetable gardens. Special attention is given to storing, packing of vegetables for market, their display and judging. Mr. Hepler.

Prerequisite: Horticulture 1–c. Elective for all students. Lec., 2 hrs.; lab., 2 hrs.; prep., 3 hrs.; 7 units.

18–a. **Landscape Gardening: Plant Materials.** The identification of trees, shrubs, and herbaceous perennials as they appear in the fall and early winter and their use in landscape design. Mr. Hepler.

Elective for any student. Lab., 5 hrs.; 5 units.

19–c. **Elementary Beekeeping.** A study of the life history and habits of honey bees and their adaptation to apiary conditions. The

laboratory work includes the assembling and use of hives and hive fittings, and practice in handling and manipulating bees. Mr. Hepler.

Elective for any student. Lec., 1 hr.; lab., 2 hrs.; prep., 2 hrs.; 5 units.

20–a. Commercial Beekeeping. This subject deals with the principles and practices underlying the production of commercial crops of comb and extracted honey. The laboratory work consists of the handling of bees during the fall and winter, the extraction of honey and the preparation for market of extracted honey, comb honey and wax. Mr. Hepler.

Elective for any student. Lec., 1 hr.; lab., 2 hrs.; prep., 2 hrs.; 5 units.

21–c. Supervised Horticultural Experience. Supervised work in orchard, garden, or greenhouses, April 1st to September 1st. Weekly reports are required. Mr. Potter.

Required of all Juniors in the 3rd term of the Junior year. Lab., 50 units.

NOTE: Students who have previously had this experience may substitute 50 elective units for this required subject.

22–a. Fruit Judging. A study of the tree, fruit, leaf characters and commercial characteristics of the leading varieties of fruits with special reference to those important in New England. The student is required to become proficient in recognizing the varieties on sight and in judging exhibition fruit. Mr. Latimer.

Elective for any student. Lab., 6 hrs.; prep., 1 hr.; 7 units.

23–b. Commercial Pomology. The economic aspects of managing an orchard and handling of fruit crops, technicalities of fruit grading, agencies used and problems met in storing, transporting and merchandising the crop, with laboratory practice in actual packing house work. Mr. Potter.

Elective for all students. Lec., 2 hrs.; lab., 2 hrs.; prep., 3 hrs.; 7 units.

For subjects primarily for graduate students, see Catalog of the Graduate School.

LANGUAGES

HAMILTON FORD ALLEN, *Professor*
J. HERBERT MARCEAU, *Associate Professor*
JOHN STEPHEN WALSH, *Assistant Professor*
RUDOLF L. HERING, *Assistant Professor*
WILLIAM GREENE WILKINSON, *Instructor*
FRANK A. RUSSO, *Instructor*
PAUL P. GRIGAUT, *Instructor*

Major: 150 time units of departmental and related departmental subjects, exclusive of elementary subjects.
Graduate Work: For subjects primarily for graduate study, see Catalog of the Graduate School.

The subjects 1–a, 2–b, 3–c in French, German and Spanish constitute a year's subject, and must be taken in succession in the same year in order to count toward a degree. A student who fails in 1–a, or 2–b in one of these languages must repeat the work from the beginning to receive credit toward a degree.

Students who are preparing to teach a foreign language will elect with profit a second foreign language and such subjects as English Poetry and Drama, History and Principles of Education, History of Europe and Educational Sociology.

The following subjects may be counted toward requirements in Education: French 13–a, 14–b, 15–c; French 22–a; German 16–a, 17–b, 18–c; Latin 10–a, 11–b, 12–c, 13–a, 14–b, 15–c; Spanish 13–a, 14–b, 15–c.

FRENCH

MR. ALLEN, MR. MARCEAU, AND MR. GRIGAUT

1–a, 2–b, 3–c. Elementary French. Elements of French grammar, reading of simple prose, oral practice, dictation.

Rec., 3 hrs.; prep., 6 hrs.; 9 units.

4–a, 5–b, 6–c. French Prose. Reading and translation, review of grammar, oral practice, composition, outside reading.

Prerequisite: French 3–c or its equivalent. Freshmen who offer two or more units of French for admission to college may take this subject. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

7–a, 8–b, 9–c. General View of French Literature. Prose and poetry of some of the more important writers with lectures and outside reading.

Prerequisite: French 6–c. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

10–a, 11–b, 12–c. French Drama. The rise and development of the drama in France with reading and study of plays indicative of the various tendencies from Corneille to the present.

Prerequisite: French 9–c. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

13–a, 14–b, 15–c. French Composition and Conversation. The use of written and spoken French is taught by careful attention to pronunciation; language phone records of words, sentences, and complete plays; composition, letter, and theme writing; memorization of songs, prose extracts, dialogs, poems, and short plays; stereopticon lectures; short talks given by individual students on assigned subjects.

This subject is especially valuable for students who wish to teach French and conduct French clubs. Such students will have the opportunity of coöperating with the instructor in the preparation and presentation of material to the class.

This subject is for students who have shown special aptitude for and desire to learn French. Enrollment is limited to twenty. Permission of the instructor is required before enrollment.

Prerequisite: French 6–c. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

16–a, 17–b, 18–c. Romanticism and Realism in French Literature of the Nineteenth Century. Prose and poetry of the more important writers with lectures and outside reading.

Prerequisite: French 12–c. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

19–a, 20–b, 21–c. Recent Tendencies in French Literature. Prose and poetry of the end of the nineteenth and beginning of the twentieth centuries. This course is open to a limited number of qualified undergraduates, and to graduate students. Permission of the instructor is required before enrollment.

Rec., 3 hrs.; prep., 9 hrs.; 12 units.

22–a. Methods of Teaching Modern Languages. Assigned reading, reports, discussion, and practice in teaching.

Prerequisite: 6–c in French, German, or Spanish. Elective for students who intend to teach Modern Languages. Rec., 2 hrs.; prep., 4 hrs.; 6 units.

51–a, 52–b, 53–c. Honors Course in French. (This is a year course. It cannot be taken by terms.) The work of this subject is arranged so

that the students may gain a knowledge as comprehensive as possible of French language, literature, history, and civilization. At the weekly conference hours the students give reports in French and all discussion is carried on in French.

Permission to pursue this subject depends upon the student's record in subjects taken in French and in any other language or languages during the first three years, and on the quality of his work in general. In addition to French, the student must have a good reading knowledge of another Romance language. Mr. Allen.

Elective for Seniors. Credit equal to one year's work.

GERMAN

MR. HERING

1–a, 2–b, 3–c. Elementary German. Elements of German grammar, reading of simple prose, oral practice, dictation and composition.

Rec., 3 hrs.; prep., 6 hrs.; 9 units.

4–a, 5–b, 6–c. German Prose. Reading of modern prose, review of grammar, composition, oral practice.

Prerequisite: German 3–c or its equivalent. Freshmen who offer two or more units of German for admission to college may take this subject. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

5–b, 6–c. Scientific German. Continuation of 4–a. Limited to students in Science, Chemistry, Pre-Medical, etc.

Rec., 3 hrs.; prep., 5½ hrs.; 8½ units.

7–a, 8–b, 9–c. Schiller, Modern Drama and Modern Prose. Two dramas of Schiller, selections from Hauptmann, Sudermann, Hofmannsthal, Hart and other modern writers.

Prerequisite: German 6–c or equivalent. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

10–a, 11–b, 12–c. German Literature of the Eighteenth and Nineteenth Centuries. Selections from the works of Lessing, Goethe, Schiller, Heine; Ballads and Lyrics. (Not given in 1928–29.)

Prerequisite: German 6–c. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

13–a, 14–b, 15–c. Contemporary German Literature. Sudermann, Hauptmann and other authors. (Not given in 1928–29.)

Prerequisite: German 6–c. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

16–a, 17–b, 18–c. German Composition and Conversation. The aim of this subject is to train the student in writing, speaking, and understanding modern German. The work includes the essentials of phonetics, exercises in writing German, constant practice in speaking the language; memorization of songs, dialogs, poems, and short plays; stereopticon lectures illustrating German life and institutions.

Enrollment is limited to twenty. Permission of the instructor is required before enrollment. (Given in 1929–30.)

Prerequisite: German 6–c. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

LATIN

MR. WALSH

1–a. Selections from Latin poets. Translation, lectures, and study of Roman life and philosophy.

Students who have offered advanced Latin for admission to college may take this course.

Prerequisite: 3 or 4 years of Latin. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

2–b, 3–c. Works of Horace, Catullus and other poets. Translation, lectures, and study of Latin influence on English poetry.

Prerequisite: 1–a. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

4–a. Plautus. Study of ancient comedy; lectures on the literature and life of Rome.

Prerequisite: Latin 3–c. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

5–b. Terence: Andria, and Phormio. Comparison with the comedies of Plautus. (Given as 6–c prior to 1927–28.)

Rec., 3 hrs.; prep., 7 hrs.; 10 units.

6–c. Pliny's Letters. Careful study of the historical background of the letters. Translation, lectures. (Given as 5–b prior to 1927–28.)

Rec., 3 hrs.; prep., 7 hrs.; 10 units.

7–a. Horace, Satires and Epistles. Translation and lectures. Study of Roman society as portrayed in the literature of the time. (Not given in 1928–29.)

Prerequisite: 6–c. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

8–b. Martial, Epigrams. Translation and lectures. Study of Roman society as portrayed in the literature of the time. (Not given in 1928–29.)

Rec., 3 hrs.; prep., 7 hrs.; 10 units.

9–c. Cicero. Tusculan Disputations. Translation and lectures. Study of ancient views on philosophy, religion, and natural sciences. (Not given in 1928–29.)

Rec., 3 hrs.; prep., 7 hrs.; 10 units.

10–a, 11–b, 12–c. Literature and History. This subject offers a comprehensive view of Latin literature of the Golden Age.

The works of Caesar, Cicero, Virgil, and others will be studied for their literary value and historical content. Caesar's campaigns in Gaul will be studied by means of the "Commentaries," maps, stereopticon slides, and lectures. The history of Rome during the Golden Age will be studied in order to provide the background necessary to the student or teacher of the Classics.

Prerequisite: Latin 3–c. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

13–a, 14–b, 15–c. Latin Composition. Translation of English narrative, beginning with the fundamentals of grammar and progressing to a study of prose style and effective idiomatic expression.

This subject may be taken in two successive years. It is open to those who have taken or are taking another course in college Latin and is most necessary for prospective teachers of Latin.

Rec., 3 hrs.; prep., 7 hrs.; 10 units.

SPANISH

MR. RUSSO, AND MR. WILKINSON

1–a, 2–b, 3–c. Elementary Spanish. Elements of Spanish grammar, reading of simple prose, oral practice, dictation.

Rec., 3 hrs.; prep., 6 hrs.; 9 units.

4–a, 5–b, 6–c. Modern Spanish Prose and Poetry. Review of grammar, memorization, composition, oral practice.

Prerequisite: Spanish 3–c or its equivalent. Freshmen who offer two or more units of Spanish for admission to college may take this subject. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

7–a, 8–b, 9–c. The Spanish Novel in the Nineteenth Century. Book reports and theme writing.

Prerequisite: Spanish 6–c. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

10–a, 11–b, 12–c. Modern Spanish Drama. Dramas of Nunez de Arce, Echegaray, the brothers Alvarez Quintero, Benavente and others. This course is carried on as far as possible in Spanish.

Prerequisite: Spanish 9–c. Rec., 3 hrs.; prep., 7 hrs.; 10 units. Three additional units in this subject may be gained each term by students who do a certain amount of outside reading and pass tests on the same. Students who desire this additional credit must register for it on Registration Day.

13–a, 14–b, 15–c. Spanish Composition and Conversation. The use of written and spoken Spanish is taught by careful attention to pronunciation; language phone records of words, sentences and complete plays; composition, letter, and theme writing; memorization of songs, prose extracts, dialogs, poems, and short plays; stereopticon lectures; short talks given by individual students on assigned subjects.

This subject is especially valuable for students who wish to teach Spanish and conduct Spanish clubs. Such students will have opportunity to coöperate with the instructor in the preparation and presentation of material to the class.

This subject is for students who have shown special aptitude for and desire to learn Spanish. Enrollment is limited to twenty. Permission of the instructor is required before enrollment.

Prerequisite: Spanish 6–c. Rec., 3 hrs.; prep., 7 hrs.; 10 units.

LIBRARY SCIENCE

WILLARD P. LEWIS, *Librarian*

Lectures on the Library followed by demonstrations of library methods and tools and individual problems are given to members of the Freshman Class during Freshman Week.

1–b. Elementary Library Science. A general introduction to library methods with a brief survey of cataloging, classification, reference work, bibliography, book order and selection, library history and practical work.

Elective for Sophomores, Juniors and Seniors. Lec. or rec., 2 hrs.; lab., 2 hrs.; prep., 3 hrs.; 7 units.

MATHEMATICS

HERMON L. SLOBIN, *Professor*
GEORGE N. BAUER, *Associate Professor*
GABRIEL H. COLLIGNON, *Assistant Professor*
WALTER E. WILBUR, *Assistant Professor*
MARVIN R. SOLT, *Instructor*
LEO H. MAYNARD, *Instructor*

Major: 90 time units as follows: 201–a, 12 units; 202–b, 12 units; 203–c, 12 units; 7–a, 7½ units; 8–b, 7½ units; 9–c, 7½ units, and 31½ time units selected subject to the approval of the head of the Department of Mathematics. Students preparing to teach secondary school mathematics should include 13–a, 14–b, 15–c, 16–a, 17–b and 18–c.

Minor: 75 time units selected subject to the approval of the head of the Department of Mathematics.

1–b. Trigonometry. The general angle; trigonometric functions of the general angle; radian measure; solution of right and oblique triangles with and without logarithms; trigonometric identities and equations; inverse trigonometric functions.

Prerequisites: High School Algebra and Plane Geometry, and Mathematics 201, or 2, or 101. 1–b required of Freshmen in Architecture. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

1.5–a, 2.5–b, 3.5–c. The Elementary Mathematics of Finance and Statistical Methods. This course is designed particularly for students in Economics and Accounting. It also meets the needs of other students in the College of Liberal Arts. The Mathematics of Finance involves a study of simple and compound interest, discount, present worth, annuities, depreciation, evaluation of bonds and other securities, building and loan associations, and the elements of life insurance. Statistical Methods includes a study of frequency distribution, averages, time series, index numbers, correlation and sampling.

Prerequisite: Mathematics 103. Required of Sophomores in the Business Course. Rec., 3 hrs.; prep., 3 hrs.; 6 units.

2–a, 3–b. Algebra. Review of fundamental operations; theory and use of logarithms; graphs of simple algebaric functions; variations; complex numbers; elements of determinants and theory of equations.

Prerequisites: High School Algebra and Plane Geometry. 2–a required of Freshmen in Arts Course in Architecture. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

4–c. Analytic Geometry. Cartesian and polar coördinates, graphs of algebraic functions; change of coördinate axes; graphs of transcendental functions; straight line; conics, empirical equations; higher plane curves; analytic geometry of space.

Prerequisites: Mathematics 1 and 2 or 201. 4–c required of Freshmen in Architecture. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

6–c. Solid Geometry. Elements of solid geometry.

Prerequisites: High School Algebra and Plane Geometry. Required of Freshmen in the Arts Course in Architecture. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

7–a,–b, 8–b,–c, 9–c. Calculus. Applications of differentiation and integration; special methods of integration; the definite integral, applications of the definite integral to geometry, physics and mechanics; introduction to sequences and series.

Prerequisite: Mathematics 203. Required of Sophomores in Chemical, Electrical and Mechanical Engineering and of all students whose major is Mathematics. 7–a required in Arts and Science Chemistry. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

10–a, 11–b, 12–c. Advanced Calculus and an Introduction to Differential Equations.

Prerequisite: Mathematics 9. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

13–a. Teaching of Mathematics in Secondary Schools. Particular attention given to the teaching of Algebra, geometry and trigonometry. Texts, lectures and reports. A term paper on some assigned topic will be required.

Prerequisites: Mathematics 203; or 1, 2 and 3. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

14–b, 15–c. The History of Mathematics. This course is designed especially for those preparing to teach mathematics in the high school. It aims to give an historical background and an appreciation of the development of various fields of mathematics.

Prerequisite: Mathematics 13–a. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

16–a, 17–b, 18–c. Secondary School Mathematics and Advanced Algebra. A study of secondary school mathematics offered especially to seniors who expect to teach mathematics in the high schools. The

State requirements in the several subjects, and topics in advanced algebra will be studied.

Prerequisites: Mathematics 13–a, 14–b, 15–c. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

21–b, 22–c. Mathematics for Students of Agriculture. Elements of algebra, geometry and trigonometry.

Required of Freshmen in Agriculture. Rec., 3 hrs.; prep., 4 hrs.; 7 units.

23–a, 24–b, 25–c. Mathematics of Finance and Statistics. A study of simple and compound interest, discount, annuities, depreciation, evaluation of securities, building and loan associations, and the elements of life insurance. The study of statistics is approached from the point of view of business. It deals with such subjects as frequency distribution, averages, index numbers, correlation and sampling.

Prerequisite: Mathematics 203. Required of Juniors in the Industrial Engineering Course. Rec., 3 hrs.; prep., 3 hrs.; 6 units.

27–a, 28–b, 29–c. Analytic Geometry and Calculus. A year course in selected topics of analytic geometry and calculus.

Prerequisites: Mathematics 1, 2, and 4; or 201, 1, and 4; or the equivalent. Required of Seniors in Option 2 in Architecture. Rec., 2 hrs.; prep., 3 hrs.; 5 units.

101–a, 102–b, 103–c. Elementary Mathematical Analysis. This course is designed to prepare students for the study of statistics and mathematics of finance. It uses both analytical and graphical methods. The subjects studied are some of the fundamental functions, logarithmic computations, the simpler elements of least squares, etc. Emphasis is placed upon finding mathematical laws or formulas from empirical data.

Prerequisites: High School Algebra and Plane Geometry. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

120–c. Astronomy. A brief descriptive course. The earth as an astronomical body; the sun and the solar system; the constellations; the stars.

Rec., 3 hrs.; prep., 6 hrs.; 9 units.

121–c. Astronomy. A brief descriptive course, similar to 120–c, but less extensive. Lectures and text.

Prerequisite: Civil Engineering 2–a. Rec., 2 hrs.; prep., 1½ hrs.; 3½ units.

201–a, 202–b, 203–c. Unified First Year Mathematics. This constitutes a unified course of algebra, trigonometry, analytic geometry, differential and integral calculus.

Prerequisite: See requirements of Mathematics for admission to College of Technology. Required of all students in the College of Technology, Arts Course in Chemistry and of all students whose major is Mathematics. Rec., 5 hrs.; prep., 7½ hrs.; 12½ units.

NOTE: For Advanced Courses in Mathematics see Catalog of the Graduate School.

MECHANICAL ENGINEERING

GEORGE W. CASE, *Professor*
EDWARD L. GETCHELL, *Assistant Professor*
THOMAS J. LATON, *Assistant Professor*
E. T. DONOVAN, *Assistant Professor*
E. HOWARD STOLWORTHY, *Instructor*
LYMAN J. BATCHELDER, *Instructor*
JOHN C. TONKIN, *Instructor*
ELIAS O'CONNELL, *Instructor*

1–a. Engineering Drawing. The fundamentals of engineering drawing, including free-hand lettering, use of drawing instruments, the solution of problems in orthographic projection and a brief study of isometric drawing. Mr. Laton and Mr. Stolworthy.

Required of all Freshmen. Lab., 6 hrs.; 6 units.

2–b, 3–c. Descriptive Geometry. An application of the principles of Descriptive Geometry to the solution of problems in points, lines, planes and solids. Mr. Laton and Mr. Stolworthy.

Prerequisite: Mechanical Engineering 1–a. Required of Freshmen in Mechanical, Electrical and Civil Engineering. Lab., 5 hrs.; prep., 1 hr.; 6 units.

4–a, 5–b. Machine Drawing. A further application of the principles of orthographic projection to the drawing of machine parts. Various pictorial systems are studied as an aid in sketching. Problems in intersections and developments as applied to sheet metal work are taken up. Commercial drafting room methods are studied and employed in sketching machine parts, drawing from sketches, making of tracings and blueprints. Mr. Laton and Mr. Stolworthy.

Prerequisite: Mechanical Engineering 1–a. Required of Sophomores in Mechanical and Electrical Engineering. Lab., 5 hrs.; 5 units.

7–c. Agricultural Drawing. Instruction in the subject includes drafting room exercises in free-hand lettering, use of drawing instruments, a brief study of orthographic and isometric projection, together with the drawing of plans and elevations of simple form structures. Mr. Stolworthy.

Required of Sophomores in Forestry; elective for other Agricultural students. Lab., 5 hrs.; 5 units.

10–a, b. Wood Work. Instruction in the care and use of wood working tools and machinery, saw filing, plain cabinet making. Mr. Batchelder.

For Freshmen in Technology. Rec., 1 hr.; lab. 5 hrs.; prep., 1½ hrs.; 7½ units.

11–b, c. Wood Work. Cabinet making and finishing, the use of stain, filler, shellac, and varnish as used in cabinet finishing and interior wood work. Mr. Batchelder.

Elective for Liberal Arts and Teacher Training students. Lab., 5 hrs.; 5 units.

12–c. Wood Shop. Carpentry and building, including the construction of buildings, a study of the steel square and its use in the laying out of rafters, stair stringers, trusses, etc. Mr. Batchelder.

Required of Seniors in Architectural Construction. Lab., 2½ hrs.; 2½ units.

13–c. Wood Shop. Instruction in the care and use of tools in farm carpenter shop; saw filing; the making of various implements used on the farm; use of steel square; laying out framing; care of lumber on the farm. Mr. Batchelder.

Elective for Sophomores in Agriculture. Lab., 5 hrs.; 5 units.

14–b. Wood Shop. Practice teaching. Exercises, under the supervision of the instructor, in teaching manual training in the wood shop. Mr. Batchelder.

For Seniors in the Industrial Teacher Training Course. Lab., 5 hrs.; 5 units.

15–c. Wood Work. Advanced pattern making, involving split and loose piece patterns, core boxes, etc. Mr. Batchelder.

For Seniors in Mechanical and Electrical Engineering. Lab., 5 hrs.; 5 units.

16–a, b. Forging. This a study of the operations necessary in the forging of iron and steel, and is designed to teach the methods of drawing, upsetting, welding, twisting, splitting, and punching of iron; also the hardening, tempering, and annealing of steel, and the case hardening of mild steel as adapted to engineering work. Mr. O'Connell.

Freshmen in the College of Technology. Lab., 7½ hrs.; 7½ units.

17–b. Forging. This is a study of the forging of iron and steel; and is designed to teach the operations of drawing, welding, upsetting, twisting, splitting, and punching of iron; the hardening, tempering, and annealing of steel; and the case hardening of mild steel as adapted to agricultural work. Mr. O'Connell.

Required of Juniors in Agricultural Teacher Training Course. Lab., 7½ hrs.; 7½ units.

18–a. Forging. Advanced work in forging, welding, tempering, case hardening, tool dressing. Mr. O'Connell.

Prerequisite: Mechanical Engineering 16. For Seniors in Industrial Teacher Training Course. Lab., 5 hrs.; 5 units.

20–a, 21–b. Machine Work. Exercises in bench work. Chipping, filing, and scraping, and the laying out of work from drawings. Practice in operating machine tools and simple lathe work. Mr. Tonkin.

Required of Mechanical, Electrical and Industrial Engineering Sophomores. Lab., 5 hrs.; 5 units.

24–a, 25–b. Machine Work. Advanced work on the lathe, milling machine, planers, shaper, and grinding machines, and the manufacture of some machine, using more advanced methods and special tools. Mr. Tonkin.

For Seniors in Industrial Teacher Training Course. Lab., 5 hrs.; 5 units.

26–a, b, c. Machine Work. Advanced machine work, time study production methods, and shop management. Mr. Tonkin.

Prerequisite: Mechanical Engineering 25–b. Lab. 5 hrs.; 5 units.

30–c. Machine Work. An elementary study of the operation of the principal machines and tools suited to the chemist's needs. Mr. Tonkin.

Required of Freshmen in Chemical Engineering. Lab., 5 hrs.; 5 units.

40–a, 41–b, 42–c. **Mechanical Laboratory.** This subject will give the student instruction in the elements of power plant work, operation of machines for testing materials, general survey of laboratory work and method conducting tests. Mr. Getchell.

Required of Sophomores in Mechanical Engineering. Lab., 2 hrs.; 2 units.

43–a, 44–b, 45–c. **Mechanics.** A study of forces and moment of forces; determination of stresses in trusses and cranes; centroids and center of gravity; rectilinear and curvilinear motion; translation and rotation of bodies; work, power and energy. The application of the principles of Mechanics to the determination of stress and strain in rigid bodies. Thin walled cylinders; riveted joints; torsion; transverse loading of beams; deflection in beams of all kinds; study of columns and compound stresses. Mr. Getchell.

Prerequisite: Mathematics 8–b. Required of Juniors in Mechanical, Electrical and Civil Engineering. Rec., 3 hrs.; lab., 2½ hrs.; pre., 4½ hrs.; 10 units.

46–a, 47–b, 48–c. **Mechanics.** Forces; composition and resolution of forces, center of gravity; stresses in cranes framed and structures; moment of inertia of areas and solids; motion of translation and rotation; work, power and energy; strength of materials; riveted joints; sheer and moment diagrams; study of beams of all kinds as regards strength and deflection; torsion and columns. Mr. Getchell.

Required of Juniors in Industrial and Chemical Engineering. Rec., 3 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 10 units.

49–a, 50–b, 51–c. **Mechanics.** Principles of Mechanics as applied to architectural work. Winter and spring laboratories to consist of the testing of cement and strength of materials. Study of methods of obtaining strongest and densest mixtures for concrete and making of specimens for later testing. Testing of steels in tension; column tests; shear tests; transverse tests on wooden and concrete beams, etc. Mr. Getchell.

Required of all Junior Architects. Rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

52–a. **Testing Materials Laboratory.** Testing of cements and concrete aggregates. Study of methods of obtaining strongest and densest

mixtures for concrete and making of specimens for later testing. Mr. Getchell.

Required of all Junior Civil Engineers. Lab., 2½ hrs.; 2½ units.

53–c. Testing Materials Laboratory. Tension, torsion and sheer tests of steel; compression tests; transverse tests of wooden and concrete beams; column tests. Mr. Getchell.

Required of Junior Mechanical, Electrical and Civil Engineers. Lab., 5 hrs.; 5 units.

54–a. Manufacture of Iron and Steel. Study of the location of ores and other raw materials entering into the manufacture of pig iron, of the blast furnace and conversion of pig iron into wrought iron, Bessemer and open hearth steels and of the manufacture of steel by electrical methods. Heat treatment of steel to produce the various degrees of hardness, strength and ductility. Mr. Getchell.

Required of Senior Mechanical and Industrial Engineers. Rec., 2 hrs.; prep., 3 hrs.; 5 units.

55–a. Heat Treatment Laboratory. Study of the effects of various heat treatments on different grades of steel. Testing of the above under different conditions. Microscopic identification of steels, etc. Mr. Getchell.

Required of Senior Mechanical Engineers. Lab., 5 hrs.; 5 units.

56–c. Kinematics. A study of motion in machine construction; belts and other flexible connectors; gears and gear teeth; wheels in trains; epicyclic trains; cams; instantaneous centers; linkwork, velocity and acceleration diagrams. Mr. Laton.

Required of Sophomore Mechanical and Electrical Engineers. Rec., 1 hr.; lab., 5 hrs.; prep., 1 hr.; 7 units.

57–b. Valve Gears. Study of various methods of admitting steam to reciprocating engines. Design of plain slide valve and riding cut-off valve by means of Bilgram and Zeuner diagrams. Setting of valves; governors; reversing gears for locomotives and design of Corliss valve. Mr. Laton.

Required of Junior Mechanical Engineers. Lab., 5 hrs.; 5 units.

58–a, 59–b, 60–c. Machine Design. The application of the principle of Mechanics to the design of machine elements. This work to be taken

up with the idea of manufacturing the parts in the most economical manner in the shops. General principles of design will be followed rather than attempting to develop any particular system of procedure. Mr. Laton.

Prerequisite: Mechanical Engineering 45–c. Required of Senior Mechanical Engineers. Rec., 1 hr.; lab., 5 hrs.; prep. 1½ hrs.; 7½ units.

61–a, 62–b, 63–c. Heat Power Engineering. A general study of power generation adaptable to the needs of Civil Engineers. This subject will involve only enough fundamental theory to enable the students to grasp a working knowledge of such power mechanism as they may use after graduation. Mr. Donovan.

Prerequisites: Mathematics 8–b and Mechanical Engineering 45–c. Required of Civil Engineering Seniors. Rec., 1 hr.; lab., 2½ hrs.; prep., 1½ hrs.; 5 units.

64–a, 65–b. Thermodynamics. A study of the fundamental laws of thermodynamics and their relation to the operation of mechanisms using gases and vapors as their working substances. Mr. Donovan.

Prerequisite: Mathematics 8–b. Required of Junior Mechanical, Industrial and Electrical Engineers. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

65.5–c. Thermodynamics. A further study of the laws of thermodynamics, and their engineering application. Mr. Donovan.

Prerequisite: Mechanical Engineering 65–b. Required of Junior Mechanical Engineers. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

66–b, 67–c. Thermodynamics. The laws of gases and vapors and their application to power plant apparatus. Mr. Donovan.

Prerequisite: Mathematics 8–b. Required of Senior Chemical Engineers. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

68–a, 69–b. Mechanical Laboratory. A study of the apparatus and methods for testing power plant operation and equipment. Mr. Donovan.

Prerequisite: Enrollment in Mechanical Engineering 65–b in winter term. Required of Junior Electrical Engineers. Lab., 5 hrs.; 5 units.

68.5–a, 69.5–b. Mechanical Laboratory. Methods of investigating operation and testing of power plant equipment. Mr. Donovan.

Prerequisite: Mechanical Engineering 42–c, and enrollment in 65–b in winter term. Required of Junior Mechanical Engineers. Lab., 5 hrs.; 5 units.

70–a, 71–b. Mechanical Laboratory. Testing of steam and gas power plant equipment. Mr. Donovan.

Prerequisite: Mechanical Engineering 65–b. Required of Senior Industrial Engineers. Lab., 5 hrs.; prep., 2½ hrs.; 7½ units.

72–b. Mechanical Laboratory. Testing of steam and gas engines in accordance with A. S. M. E. power test codes. Mr. Donovan.

Prerequisites: Mechanical Engineering 65–b and 69–b. Required of Senior Mechanical Engineers. Lab., 5 hrs.; prep., 2½ hrs.; 7½ units.

73–c. Mechanical Laboratory. Testing of steam and gas power equipment. Mr. Donovan.

Prerequisites: Mechanical Engineering 71–b or 72–b. Required of Senior Mechanical and Industrial Engineers.

74–a, 75–b. Power Plants. A study of the steam generating power plant dealing with its equipment and costs. Mr. Donovan.

Prerequisites: Mechanical Engineering 65–b or 67–c. Required of Senior Mechanical, Electrical and Industrial Engineers. Rec., 2 hrs.; prep., 3 hrs.; 5 units.

75.5–c. Power Plants. A continuation of Power Plants 75–b. Mr. Donovan.

Prerequisite: Mechanical Engineering 75–b. Required of Senior Mechanical, Electrical and Industrial Engineers. Lab., 5 hrs.; 5 units.

76–a, 77–b, 78–c. Automotive Engineering. A study of the general construction and operation of motor vehicles, particularly the engine.

Prerequisite: Mechanical Engineering 45–c and 65.5–c. Required of Senior Mechanical Engineers. Rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

79–b, c. Heating and Ventilating. A study of the heat losses of buildings, and the design of heating and ventilating systems for residences, factories, etc. Mr. Stolworthy.

Required of Seniors in Mechanical Engineering and Architectural Construction. Rec., 1 hr.; lab., 5 hrs.; prep., 1½ hrs.; 7 units.

82–a, 83–b, 84–c, 85–a, 86–b, 87–c. Student Branch of American Society of Mechanical Engineering. An organization of Junior and Senior students in Mechanical and Industrial Engineering. The subject consists of preparation and presentation of addresses on mechanical engineering topics by members and in which the instructor present criticises the work from the point of view of delivery, subject matter and terms used.

Required of Juniors and Seniors in Mechanical Engineering. Rec., 1 hr.; prep., ½ hr.; 1½ units.

89–a, 90–b, 91–c. Thesis. The thesis embodies research or commercial investigation. Equal emphasis is placed upon composition and accuracy in subject matter.

Required of Senior Mechanical and Industrial Engineers. Rec., 1 hr.; prep., 4 hrs.; 5 units.

100–s, 101–c, 102–s, 103–s. Coöperative Work. Industrial Engineering students spend four terms amounting approximately to one year in the employ of industrial concerns of the State of New Hampshire, under the general supervision of a member of the University faculty. They receive the prevailing rates of pay for this employment. Reports on the work they have done are required to be submitted early in the term following the period of employment.

Required of Freshman, Sophomore and Junior Industrial Engineers.

104–b. Personnel Administration. A study of the history, developments and methods of solution of the problems connected with the human side of production management. Mr. Case.

Required of Senior Industrial and Junior Civil Engineers. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

105–a, 106–b, 107–c. Industrial Problems. Typical problem of production, in which the Shops of the College are used as a manufacturing unit. This problem will include all steps of manufacture from the shop drawings to the final assembling and testing. Mr. Laton and Assistants.

Required of Senior Industrial Engineers. Lab., 5 hrs.; 5 units.

108–c. Industrial Problems. Plant and Sales organization and study of market for article manufactured during the junior year. Mr. Case.

Required of Senior Industrial Engineers. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

109–a. Industrial Management. This subject deals in a broad way with the principles of personnel organization for manufacture, time and motion studies, planning and production control methods, plant location and arrangement and other similar problems in the field of management. Mr. Case.

Required of Junior Mechanical and Industrial Engineers and elective for Seniors in Business Fundamentals. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

110–b, 111–c. Industrial Management. A continuation of 109–a, in which the various topics are studied in greater detail and from a more technical point of view. Mr. Case.

Required of Junior Industrial Engineers and not elective for other students. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

112–a. Materials Handling. Modern methods of conveying and storing gases, liquids and solids. Mr. Case.

Prerequisite: C. E. 44–c. Required of Senior Mechanical and Industrial Engineers. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

METEOROLOGY

CHARLES H. PETTEE, *Professor*

1–b. Meteorology. Recitations and lectures on wind systems, precipitation, humidity, laws of storms and tornadoes, and methods of prediction of atmospheric changes. Mr. Pettee.

Prerequisite: Physics. Required of Juniors in Forestry and Civil Engineering. Elective for others. Rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

MILITARY SCIENCE

MAJOR HUGO E. PITZ, *Coast Artillery Corps, Professor*
CAPTAIN JOHN U. AYOTTE, *Infantry, Assistant Professor*
CAPTAIN JAMES H. DAY, *Infantry, Assistant Professor*
CAPTAIN ARTHUR F. GILMORE, *Coast Artillery Corps, Assistant Professor*
FIRST LIEUTENANT ROBERT F. CARTER, *Infantry, Assistant Professor*
SERGEANT PATRICK HODGE, *Coast Artillery Corps, Assistant*
SERGEANT FRED W. WOOD, *Coast Artillery Corps, Assistant*
SERGEANT FRED H. BROWN, *Infantry, Assistant*

Military training is carried on concurrently with the academic work in order that the college man may be prepared for service in time

of national emergency as well as for the pursuit of his business or profession.

Two courses in Military Science are offered, one in Coast (heavy) Artillery, and one in Infantry, each leading to a commission in the Officers' Reserve Corps of the United States. Each course, which covers four years, is divided into the basic course, covering the first two years, and the advanced course, covering the succeeding two years. The basic course is required of all male Freshmen and Sophomores who are physically fit. The advanced course is elective for those who have completed the basic course.

Exemptions or permission to be absent cannot be accorded to freshmen or sophomores; and any student who is absent from any part of the instruction will be required subsequently to make up the omitted training or its equivalent before being credited with the number of units necessary for graduation.

Students enrolled in the Colleges of Liberal Arts and Agriculture will be assigned to the Infantry Course, and students enrolled in the College of Technology will be assigned to the Coast Artillery Course. Both courses include the fundamentals of military training, the object of which is the development of those qualities which make for success in either civil or military life, as good health and an erect carriage, courtesy and agreeable manners, enthusiasm, honor, aggressiveness and leadership. In addition, each course pays particular attention to the special material and methods used in that arm.

The Coast Artillery Course covers the principles of the construction, and the use and care of the large caliber guns used in the coast defenses, and in the railroad and mobile artillery. The manning of these weapons requires a detailed knowledge of guns and their carriages, the forces involved in their firing, motor transportation, advanced surveying, gunnery, and artillery tactics. All heavy artillery material embodies the most advanced scientific principles and the most up-to-date practice in electrical, mechanical and chemical engineering. To the engineering student this course offers, in addition to military training, an excellent opportunity to observe practical applications of his classroom work and to enlarge his view of the engineering field. The War Department furnishes the necessary guns, tractors, motor vehicles and accessories to insure ample opportunity for practical work.

The Infantry Course includes the following subjects: Command and Leadership; Scouting and Patrolling; Musketry; Map Reading and Sketching; Military Law; Military History; the Combat Principles of

the various organizations composing the war strength infantry battalion; and, in addition, a study of the infantry weapons: the caliber .30 service rifle, the .45 caliber automatic pistol; the Browning automatic rifle, the Browning machine gun, the 37-millimeter gun and the 3-inch mortar. Physics, chemistry, history, mathematics and psychology have many practical applications in the Infantry Course.

Equipment furnished by the War Department includes machine guns, howitzer weapons, automatic rifles, service rifles, sketching cases, and field equipment. The entire R. O. T. C. is armed with the 1903 (Springfield) caliber .30 rifle, the same rifle used by the U. S. Army.

The Reserve Officers Training Corps

Physically fit male students who take military training may enroll in the Reserve Officers Training Corps. Enrollments are for two years in either the Basic or the Advanced Course. Members of the Corps are loaned* all uniforms and equipment necessary in the training. This will include:

1 U. S. Rifle, Cal. 30	2 Collar Ornaments	1 Pair Leggings
1 Cartridge Belt	1 Coat, wool, O. D.	1 Cap, overseas
1 Pack Carrier	1 Breeches, wool, O. D.	1 Belt
1 Haversack	1 Shirt, wool, O. D.	2 R. O. T. C. insignia
1 Mess Kit		

Advanced Course.—The students who are selected for the Advanced Course and who devote the prescribed time to this course, and attend such summer training camps as may be prescribed by the Secretary of War, are allowed during their junior and senior years commutation of subsistence at such rate as the Secretary of War may prescribe. During the academic year of 1925–26 this was 30 cents per day, totalling about $178 for the two years. In addition, members of the Advanced Course are paid at the same rate of pay as privates of the Regular Army, while in actual attendance at the summer training camp.

Membership in the Corps does not require the student to enter into any agreement to continue in college a definite length of time, nor does it bind him to any military service. He is as much at liberty to leave

* A deposit of $15 is required of each student having military equipment in his possession, whether registered for Military Science or not. At the end of the academic year or upon a student's severing his connection with the college, this deposit will be refunded to him upon the satisfactory return to the University of all military property loaned except that a reasonable deduction will be made to cover any damage beyond natural wear and tear or for the loss of any of the equipment.

college as though he were not a member. He is required, once having entered upon the course, to complete it as a requisite toward graduation in any college maintaining a unit of the Corps, and to observe the rules and regulations prescribed for the government of the Corps.

Commissions.—Each year upon the completion of the Advanced Course, all qualified students are tendered commissions in the Officers Reserve Corps.

Summer Camps.—The requirement of members of the advanced course to attend the summer training camps is prescribed from time to time by the Secretary of War. These camps are organized by bringing together members of the R. O. T. C. from several colleges. The training taken at the college is elaborated upon and special attention is paid to the practical side of it. The student is furnished transportation to and from the camp and is given an additional clothing allowance, so that his only expenses are for laundry and such other personal expenditures as he may care to make. Excellent food is provided. Moral conditions are carefully controlled by the regular army officers in charge. The health and hygiene of the students is under direct supervision of medical officers and medical attendance is provided for those requiring it while at camp. Athletic contests are a feature of the camp and intercollegiate athletics between members of the different units is encouraged. The student agrees to observe the rules of the camp and to give his best efforts to the course of training. Thus he is offered at no expense an exceptional opportunity for physical and mental development.

Each spring the university unit holds a three day camp of its own. All members of the unit attend this camp.

Organization.—The unit is organized into a regiment consisting of one battalion, three companies, of infantry and one battalion, three companies, of Coast Artillery. Student officers, selected from the senior class by the Professor of Military Science and Tactics, with the approval of the President, are designated for field, staff and company officers not later than the opening of the spring term.

MILITARY SCIENCE BASIC COURSE

First Year Basic, Infantry

1–a. **Command and Leadership.** Physical drill; military courtesy; individual, squad, platoon and company close and extended order drill. Students perform the duties of privates in the infantry battalion for drills, ceremonies and field problems. Lectures and practical work.

No prerequisites. Required of Freshmen. Rec., 2 hrs.; drill, 2 hrs.; prep., 1 hr.; 5 units.

2–b. Rifle Marksmanship. Theoretical and practical instruction in all the phases of rifle marksmanship, including sighting and aiming, positions, trigger squeeze, rapid fire, use of scorebook, nomenclature and care of the rifle; gallery practice.

Military Hygiene and First Aid. Lectures and practical instruction in personal and troop hygiene. Demonstration of and practical instruction in emergency treatment of wounds and injuries.

Required of Freshmen. Rec., 3 hrs.; prep., 2 hrs.; 5 units.

3–c. Command and Leadership. A continuation of 1–a.

Required of Freshmen. Rec., 2 hrs.; drill, 2 hrs.; prep., 1 hr.; 5 units.

Second Year Basic, Infantry

4–a. Scouting and Patrolling. Individual scouting: use of cover, crossing of obstacles, map reading, operation of compass, messages. The duties of platoon scouts. Observation and sniping posts. The conduct of day and night patrols. Map and terrain problems.

Command and Leadership. Squad, platoon and company close and extended order drill. Students perform the duties of corporals in the infantry battalion for drills, ceremonies and field problems.

Rec., 2 hrs.; drill, 2 hrs.; prep., 1 hr.; 5 units.

5–b. Infantry Weapons (Automatic Rifle). Nomenclature and operation of the Browning automatic rifle; marksmanship; tactical uses of the weapon.

Interior Guard Duty. Theoretical and practical instruction in the duties of privates and non-commissioned officers of the guard.

Rec., 3 hrs.; prep., 2 hrs.; 5 units.

6–c. Musketry. Includes: range estimation, target designation, the effect of fire, fire discipline, and fire control. Lectures; map and terrain problems.

Infantry Weapons (Automatic Rifle). Firing on the 1000-inch range.

Command and Leadership. A continuation of 4–a.

Rec., 2 hrs.; drill, 2 hrs.; prep., 1 hr.; 5 units.

First Year Advanced, Infantry

7–a. Military Sketching. Practical work in sketching and map reading.

Military Field Engineering. Problems in the intrenching of the rifle squad, section, platoon and company; the building of obstacles.

Command and Leadership. Theoretical and practical instruction in the duties of officers and non-commissioned officers of infantry. Students act as sergeants for drills, ceremonies and field problems.

Prerequisites: 1–a, 2–b, 3–c, 4–a, 5–b, 6–c. Rec., 3 hrs.; drill, 2 hrs.; prep., 3 hrs.; 8 units.

8–b. Combat Principles. Tactical principles; estimate of the situation; field orders; tactics of the rifle squad and the rifle section.

Infantry Weapons (Machine Guns). The nomenclature and operation of the caliber .30 Browning machine gun; marksmanship; direct and indirect laying; preparation of battery charts.

Rec., 5 hrs.; prep., 3 hrs.; 8 units.

9–c. Command and Leadership. A continuation of 7–a.

Infantry Weapons. Gun drill; range firing with the Browning machine gun on the 1000-inch range.

Rec., 3 hrs.; drill, 2 hrs.; prep., 3 hrs.; 8 units.

Second Year Advanced, Infantry

10–a. Combat Principles. Tactics of the rifle platoon, company and battalion; functioning of the battalion staff; map and terrain problems.

Command and Leadership. Students perform the duties of officers in the cadet regiment. Theoretical and practical instruction in platoon, company and battalion drill, and ceremonies.

Prerequisites: First Year Advanced. Rec., 3 hrs.; drill, 2 hrs.; prep., 3 hrs.; 8 units.

11–b. Military History. Lectures, and study of American military history and policy from the Revolution to the World War; study of the National Defense Act of 1920.

Administration. Lectures and problems covering the administration of a rifle company.

Military Law. Lectures on the American system of military law: summary, special and general courtsmartial; preparation of charges; the articles of war.

Rules of Land Warfare. Lectures.

Howitzer Weapons. Mechanics of the 37-millimeter gun and the 3-inch trench mortar; direct laying.

Rec., 5 hrs.; prep., 3 hrs.; 8 units.

12–c. **Howitzer Weapons.** Indirect laying; howitzer platoon drill; tactics of the howitzer platoon and the howitzer company; field problems.

Combat Principles. Field problems involving the rifle company and the infantry battalion.

Command and Leadership. Continuation of 10–a.

Rec., 3 hrs.; drill, 2 hrs.; prep., 3 hrs.; 8 units.

First Year, Coast Artillery

18–a. **Individual and Squad Drill.** Same as 1–a, except there is no extended order drill.

Rec., 2 hrs.; drill, 2 hrs.; prep., 1 hr.; 5 units.

19–b. Instruction in 2nd Class Gunners work for C. A. C. including:

Cordage and Knots	Mechanical Maneuvers
Guns	Mortars
Shears	Carriages
Explosives	Fuses
Projectiles	Primers
Blocks	Jacks

Rec., 3 hrs.; prep., 2 hrs.; 5 units.

20–c. **Platoon and Company Drill.** Same as 3–c.

Second Year, Coast Artillery

21–a. Artillery matériel; standing gun drill; range and position finding drill with moving target; close order infantry drill; ceremonies; duties of non-commissioned officers; military history; military policy.

Rec., 2 hrs.; drill, 2 hrs.; prep., 1 hr.; 5 units.

22–b. Range section drill with moving target; theory, nomenclature, and use of observing instruments; theory and operation of local and common battery telephone systems; characteristics of warships; first aid and military hygiene.

Rec., 3 hrs.; prep., 2 hrs.; 5 units.

23–c. Drill on the 155 mm. gun; individual, squad, platoon, and company close order drill; tent pitching; pack rolling; cermonies; and inspections.

Rec., 2 hrs.; drill, 2 hrs.; prep., 1 hr.; 5 units.

Third Year, Coast Artillery

24–a. Orientation including work with transit, tape, and level; computation of coördinates; meridian determination by observation on polaris and the sun; use of the "Ephemeris"; gunnery for mobile artillery; computation of firing data.

Elective for Juniors. Rec., 3 hrs.; drill, 2 hrs.; prep., 3 hrs.; 8 units.

25–b. Methods of fire adjustment on moving targets and land targets including unilateral 1st and 2d methods; use of impact charts; blackboard firing.

Elective for Juniors. Rec., 3 hrs.; drill, 2 hrs.; prep., 3 hrs.; 8 units.

26–c. Analysis of drill and reports of target practice; practical work in gun location and the locating of observing stations and aiming points; emplacement of 3-inch field gun and firing of problems.

Elective for Juniors. Rec., 3 hrs.; drill, 2 hrs.; prep., 3 hrs.; 8 units.

Fourth Year, Coast Artillery

27–a. Orientation, field engineering, artillery material, infantry drill.

28–b. Administration, artillery tactics, military law, infantry drill.

29–c. Infantry drill, motor transportation.

Credits for the fourth year are the same as for the third year.

MINERALOGY

CHARLES JAMES, *Professor*

1–b. **Mineralogy.** A study of minerals, with special reference to their occurrence and economic value.

Elective. Prerequisite: Chemistry 3–c. Subject to the approval of the head of the department. Lab., 7½ hrs.; 7½ units.

MUSIC

ROBERT W. MANTON, *Director and Assistant Professor*
GRACE L. MANGUN, *Instructor in Voice*
MR. HARRIS S. SHAW, *Instructor in Pianoforte and Organ*
MR. LEWIS SWAIN, *Bandmaster*

Major: 150 time units of departmental and related departmental subjects, *i.e.*, Language (French and German, important to musical literature), History (History of the Fine Arts), English Literature, and Physics (Acoustics), exclusive of elementary subjects.

The courses offered by the department for a major are of two kinds:

1. Courses which are technical and grammatical in nature and are meant to provide a thorough training for students intending to follow the musical profession as teachers and composers. These are Music 107–a, 108–b, 109–c, 110–a, 111–b, 112–c, 113–a, 114–b, 115–c, 116–a, 117–b, 118–c, and the applied courses in pianoforte, voice and organ.

2. Courses which treat of the historical, literary and aesthetic side of music and are meant for those who wish to acquire a broad appreciation of the art and to familiarize themselves with the standard works of musical literature. These courses are Music 101–a, 102–b, 103–c, 104–a, 105–b, 106–c, and the educational activities of the Musical Clubs.

It is recommended that students consult the head of the Department as early in their freshman year as possible relative to the best disposition of order of courses in the Major.

Students who intend to take only one course in Music, for the cultivation of musical taste and general knowledge, are recommended to elect either Music 101–a, 102–b, 103–c, or Music 104–a, 105–b, 106–c as best adapted to this end.

Students interested in some particular musical organization, such as glee club or orchestra, are permitted to elect work with the organization desired.

1. University Band

Prerequisite: Ability to play some band instrument and satisfactory completion of Basic Course, R. O. T. C. Open to others with special permission from the Professor of Military Science and Tactics. 5 units.

2. The Men's Glee Club

Open to all undergraduates interested in choral singing and who fulfill the requirements of a tryout. 1 unit.

3. Advanced Choral Club (Men)

Prerequisite: A grade of 80, or more, in the previous course; Participation in some extra curricula work, *i. e.*, Double Quartet, Choir, Vesper Services, and the like. 2–4 units.

4. The Women's Glee Club

Open to all undergraduates interested in choral singing and who fulfill the requirements of a try out. 1 unit.

5. Advanced Choral Club (Women)

Prerequisite: A grade of 80, or more, in the previous course; Participation in some extra-curricula activity, *i.e.*, Treble Clef Club, Choir, Vesper Services, and the like. 2–4 units.

6. The University Orchestra

Open to all undergraduates interested in orchestral playing and who fulfill the requirements of a try out. 1 unit.

7. Advanced Orchestral Club

Prerequisite: A grade of 80, or more, in the previous course; Ability to assist at Vesper Services, exceptional solo technique. Departmental class illustrations, string quartet, trio playing and the like. 2–4 units.

8. The University Choir

Open to all students who fulfill the requirements of a selective try out.

The purpose of this organization is to supply the music each Sunday at the Community Church. Faithfulness and dependability, together with pronounced musical ability, are necessary qualifications for each member. The usual opportunities will be given to study and participate in the finest examples of Church music in existence, thereby giving a distinctive educational and cultural value in this splendid field of music.

2 rehearsals: 2 units.

NOTE: In all these activities the educational values will be strongly stressed, the principles of ensemble, solo work, tone production, diction and above all sound musicianship, will be studied and concerts prepared separately and in combination to enhance and vitalize the university life. They may also be called upon to illustrate as the occasion arises the historical and cultural courses of the department. Attendance at rehearsals will be in accordance with the rule covering class work.

101–a, 102–b, 103–c. The Evolution of Music and General History from the Earliest Times to the Present Day. This is a literary course and instruction is given in the form of lectures. The beginnings of music, systems of notations, beginnings of harmony and counterpoint, the Troubadours and Minnesingers, the Motet and Madrigal, Folk Song, the 17th, 18th, 19th and 20th century composers, modern tendencies are some of the topics treated together with many other phases. This course is open to Freshmen and others and presupposes a little knowledge of the fundamental principles of music. Mr. Manton.

Elective. Lec. or rec., 2 hrs.; prep., 2 hrs.; 4 units.

104–a, 105–b, 106–c. The Appreciation of Music. This course will begin with a study of the elements of music such as: rhythm, melody, harmony, constructive formulae and the musical forms employed in composition, for upon the recognition of these depends the approach to intelligent appreciation. Comprehensive illustrations of the great musical literature, not necessarily exhaustive but emphasizing strongly the above principles will be played and jointly analyzed by the instructor and students from the point of view of the listener. This course is open and especially recommended to all students who wish to become familiar with the art of music in its many phases, and gain a wider acquaintance with the masterpieces. Mr. Manton.

Elective. Lec. or rec., 2 hrs.; prep., 2 hrs.; 4 units.

107–a, 108–b, 109–c. Harmony, The Grammar of Music. The fundamental principles of the craft of music are embodied in the study of harmony. This course treats of the different chords in their natural and combined relations, triads, seventh and ninth chords with their inversions and resolutions; cadences, chromatically altered chords, augmented chords, suspensions; passing and auxiliary notes, modulation, melody writing, pedal point, etc.

The work consists of exercises on basses and harmonization of given melodies, dictation, etc. This course is open and especially recommended to Freshmen and others and ability to play some instrument will facilitate an understanding of this course. Mr. Manton.

Elective. Lec. or rec., 2 hrs.; prep., 3 hrs.; 5 units.

110–a, 111–b, 112–c. Advanced Harmony and Analysis. This course is intended to supplement 107–a—109–c and to lay stress on the many significant innovations found in modern harmony, a thorough study of modal harmony and its relation to composition and appreciation of

fifteenth- and sixteenth-century music; and to give the student a thorough grounding in preparation for contrapuntal writing. Mr. Manton.

Prerequisite: Music 107–a—109–c. Lec. or rec., 2 hrs.; prep., 3 hrs.; 5 units.

113–a, 114–b, 115–c. **Counterpoint and Composition.** Counterpoint is the combining of several melodic voices, a horizontal conception of writing and is essential to all finished craftsmanship. The work will treat of the various orders of counterpoint, the treatment of cantus firmus in different voices, double counterpoint, choral figuration, etc.

The work in composition will include thorough training in detail relating to sentence formation, two and three part forms, inventions, dance forms and the various rondo forms up to sonata form. Mr. Manton.

Prerequisite: Music 107–a—112–c. Lec. or rec., 2 hrs.; prep., 3 hrs.; 5 units.

116–a, 117–b, 118–c. **Canon and Fugue.** Canon and Fugue are the most advanced forms of polophonic composition requiring a thorough grounding in harmony and counterpoint. The object of this course is to perfect the contrapuntal technique of the student, enabling him to study the larger and freer forms of composition. The work will be based on the fugal works of Bach and Franck, consisting of practice in writing canons of all species, and in the analysis and composition of fugues. Mr. Manton.

Prerequisite: 107–a—115–c. Lec. or rec. 2 hrs.; prep. 3 hrs.; 5 units.

119–a, 120–b, 121–c. **Instrumentation.** This course is designed to ground the student in the idiomatic writing and technique necessary to score effectively for symphonic orchestra. It necessitates an authoritative background in harmony and counterpoint. All the orchestral and incidental instruments will be considered individually as to their technique, possibilities and limitations; in separate choirs; and in combination as a whole unit.

Orchestral scores will be studied in detail; score reading and reduction emphasized; and original work in this idiom encouraged. Mr. Manton.

Prerequisite: 104–a—115–c. 3 hrs.; 7 units.

125–a, 126–b, 127–c. **The History and Development of Choral Music.** This is a special course consisting of lectures, readings and reports, and only a limited number of qualified students will be admitted.

The course is designed to trace a straight line through such study as:

Gregorian Chant, folk song, the music of the Troubadours, the beginnings of harmony and counterpoint, the work of the Netherland masters and of Palestrina and his contemporaries; the German choral works of the Reformation, the Tudor School in England; the choral works of Bach, Handel, etc., ending with a consideration of the choral literature of the nineteenth century and the modern French, English and Russian composers.

Students will meet three times a week, the third meeting being devoted to class singing of the works considered in the lectures. Mr. Manton.

5 hrs.; 5 units.

NOTE: No fee is attached to courses 101–a inclusive.

128–a. Public School Music, Sight Singing, etc. This course deals with that part of the theory of music which is absolutely necessary for those who may be called upon to take charge of school singing in connection with their teaching in public schools. It consists of a study of the major and minor scales, keys, the measurement of intervals, teaching of rhythms, the technique of time beating and conducting, etc.

Elective. Lec. or rec., 1 hr.; prep., 1 hr.; 2 units.
(Given as 119–a, 120–b, 121–c in 1927–28.)

PIANOFORTE

22–a, 23–b, 24–c. Elementary Course. This course consists of a correct knowledge of such fundamentals as: notation, nomenclature, rhythm, elementary pedaling and technique, principles of phrasing, touches, stress, etc. This is supplemented by studies and simple compositions embodying the above elements and will be adapted to the needs of the individual student.

Elective. 1 lesson.

25–a, 26–b, 27–c. Intermediate Course. This course consists of the developing and strengthening of Course 22–a—24–c, together with the fundamentals of freedom and relaxation, rotary and lateral movements, hand adjustments, principles of style, tonal production, uneven rhythms, embellishments, etc. Adapted to the needs of the individual student and supplemented by interesting and vital pianoforte literature.

Prerequisite: Piano 22–a—24–c or the equivalent. 1 lesson.

28–a, 29–b, 30–c. Advanced Playing, Interpretation, etc. This course presupposes the two previous courses and gives the student a grounding in the higher and more subtle phases of piano playing such

as are necessary for finished execution. Advanced technique, bravura playing, individual interpretation, finished hand adjustment and absolute tonal command together with work on musical form and pianistic evolution as applied to recreation will dominate this course. Adapted to the individual needs and supplemented by the master works of pianoforte literature.

Prerequisites: Piano 22–a—27–c. 1 lesson.

NOTE: 22–a—30–c inclusive are fee courses.

VOICE

31–a, 32–b, 33–c. Elementary Course. This course consists of a correct knowledge of such fundamentals as: breath control, resonance, flexibility of voice, attack, enunciation and articulation. It also consists of a practical knowledge of sight singing which enables the student to read and understand his music as fast as the voice acquires the ability to perform the same, supplemented by the correct singing of the simpler form of song or ballad.

Elective. 1 lesson.

34–a, 35–b, 36–c. Intermediate Course. This course consists of the development of the fundamentals of voice placing such as: breath control, resonance, etc., together with a progressive step in reading made by singing through the different keys. This is supplemented by songs and ballads of medium difficulty, church music, quartet work. Emphasis is placed on dramatic values from the singer's standpoint.

Prerequisite: Voice 31–a—33–c or the equivalent. 1 lesson.

37–a, 38–b, 39–c. Advanced Course. This course presupposes the two previous ones; furthers the fundamentals of voice placing, aids in the mastery of all modes, intervals and musical phrases; develops the voice and acquires control of it for finished execution. This is supplemented by a study of the oratorio, opera, and the master works of song.

Prerequisite: Voice 31–a—36–c. 1 lesson.

NOTE: 31–a—39–c are fee courses.

ORGAN

40–a, 41–b, 42–c. Elementary Course. Manual and pedal technique. Short pieces presenting the fundamentals of registration, use of swells, etc.

Prerequisite: Piano 22–a—24–c or the equivalent. 1 lesson.

43–a, 44–b, 45–c. Intermediate Course. The smaller preludes and fugues of Bach; easier works of the modern French masters.

Prerequisite: Organ 40–a—42–c. 1 lesson.

46–a, 47–b, 48–c. Advanced Course. Master organ works of Bach; preludes, toccatas and fugues, choral preludes; master works of Cesar Franck, Widor, Vierné and the English and American schools together with a study of adaption, modulation, accompaniment, Gregorian chant, mediaeval or modal harmony, conducting, hymnology, etc.; in relation to practical church service work.

Prerequisites: Organ 40–a—45–c. 1 lesson.

NOTE: 40–a—48–c inclusive are fee courses.

TUITION

Private instruction in piano, 50 minute lesson a week, $36 a term.

Private instruction in organ, 50 minute lesson a week, $36 a term.

All tuition is payable at the Business Office at the time of registration.

PHILOSOPHY AND PSYCHOLOGY

HERBERT F. RUDD, *Professor*

ADOLPH G. EKDAHL, *Assistant Professor*

Major: 150 time units in this and related departments, exclusive of elementary subjects.

Graduate Work: For subjects primarily for graduate study see Catalog of Graduate School.

PHILOSOPHY

The aim of the subjects offered in this department is to secure the active participation of students in investigating the fundamental problems of modern life, and thereby to develop an adequate point of view and method for later thinking along with wholesome attitudes to life's values.

24–a. The Beginnings of Personality. Some biological foundations and childhood experiences which determine personality trends. A study of how the self comes to be. Mr. Rudd.

Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

25–b. The Growth of Personality and Character. How can we influence human behavior? How can one develop an integrated personality? What aims and purposes lead to a complete life? Mr. Rudd.

Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

26–c. Introduction to Philosophy. A survey of basic conceptions in philosophy, including conclusions from natural sciences and psychology which must influence our interpretation of nature and human nature. Mr. Rudd.

Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

32–a. The Changing World and Changing World-Views. This will include a brief survey of some historic world-views and the situations in which they operated; but attention will be mainly focused upon problems arising out of scientific, economic and cultural changes of the last century. (Not given 1928–29)

Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

33–b. Ethics. This includes a survey of the evolution of morality, an evaluation of ethical standards, and an analysis of motives for worthy conduct in the modern world. (Given 1927–28 as 43c.) Mr. Rudd.

Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

34–c. Logic. This course investigates the nature of good reasoning, the factors which help and the factors which hinder adequate thinking. Mr. Rudd.

Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

41–a. History of Philosophy. This course deals with the more important attempts to find a rational explanation of the world from the sixth century B. C. to the present day.

Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

42–b. Literary Contributions to the Field of Philosophy. A study of philosophic doctrines as revealed in selected literary materials. Extensive readings form the basis of discussion. (Not given in 1928–29.)

Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

43–b. Modern Philosophy. A study of European and American Philosophers since Kant. Mr. Rudd.

Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

54–a, 55–b, 56–c. Seminar. Special Topics in Philosophy. Credit to be arranged.

PSYCHOLOGY

Graduate Work: For subjects primarily for graduate study see Catalog of Graduate School.

The main purpose of the subjects in general psychology is to give to the student wishing a well-rounded education an opportunity for

gaining a knowledge of the human mind and the bases of human behavior. The sequence of courses is arranged so as to lay also a suitable foundation for those who might desire to enter graduate work in psychology or to become a psychologist by profession.

INITIAL SUBJECTS

21–a. Elementary Psychology. This course together with 22–b covers the general field of psychology and consists of lectures, recitations and class demonstrations. A study of the sensations, feeling, attention, reflexes, instincts and emotions. Mr. Ekdahl.

Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

22–b. Elementary Psychology. A continuation of 21–a. A study of perception, judgment, imagination, association, memory, learning and reasoning. Mr. Ekdahl.

Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

SECONDARY SUBJECTS

Prerequisites: Psychology 21–a and 22–b, unless otherwise specified or permission is granted by instructor.

23–c. Advanced Psychology. A brief historical survey of the field of theoretical psychology. Psychological concepts and theories as developed by the various modern "schools" of psychology such as Functionalism, Behaviorism and Structuralism are considered. Mr. Ekdahl.

Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

37–a. Experimental Psychology. Simple experiments on the sensations. Emphasis will be given toward the development of the proper technique of psychological investigation. Mr. Ekdahl.

Lec. and lab., 6 hrs.; prep., 4 hrs.; 10 units.

38–b. Experimental Psychology. Experiments on the complex mental processes involving perception, association, imagination, learning and reaction time. Mr. Ekdahl.

Lec. and lab., 6 hrs.; prep., 4 hrs.; 10 units.

39–c. Experimental Psychology. Psychophysical measurements, the determination of Weber constants, Limens of sensibility, etc. Mr. Ekdahl.

Lec. and lab., 6 hrs.; prep., 4 hrs.; 10 units.

Prerequisites: Psychology 21–a and 22–b, may be waived for seniors and premedic sophomores in the following courses.

47–a. Physiological Psychology. A study of the physical basis of mind, nerve functions and their correlations with mental processes. Mr. Ekdahl.

Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

48–b. Comparative Psychology. A study of psycho-genesis or the development of "mind" beginning with the one-celled organisms. Mr. Ekdahl.

Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

49–c. Abnormal Psychology. A study of abnormal phenomena such as disorders of perception, association, memory, judgment and personality. The psychoses and psychoneuroses will be considered and a brief review of mental deficiency presented. Visits to institutions. Mr. Ekdahl.

Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

51–a, 52–b, 53–c. Seminar. Special Problems in Psychology. Credit to be arranged.

PHYSICAL EDUCATION

PHYSICAL EDUCATION FOR MEN

WILLIAM H. COWELL, *Professor, Director of Athletics and Coach of Football*
HENRY C. SWASEY, *Associate Professor, Coach of Baseball, Soccer, Basketball*
PAUL C. SWEET, *Assistant Professor, Coach of Track, Cross-Country and Relay*
E. W. CHRISTENSEN, *Instructor, Assistant Coach Varsity Football, Coach of Hockey*
CHARLES O. NASON, *Department Secretary*
WILLIAM F. MARSH, *Trainer*
PERCY F. REED, *Assistant, Coach of Boxing*

Aims.—1. To promote regulated exercise, and to provide an incentive and opportunity for every student to receive physical recreation.

2. To secure good posture, a uniform development and a reasonable amount of bodily skill and grace.

3. To stimulate the habit of exercise.

Equipment.—The gymnasium affords accommodation for training and indoor games.

On the ground floor are the lockers and various shower baths.

On the first floor are offices and the main gymnasium hall.

On the second floor is the running track and offices of the athletic director and assistants.

The Memorial Athletic Field adjoins the Gymnasium. The field, one of the best in New England, is equipped with a one-fourth mile cinder track, a fine sodded grass football gridiron, and adequate stands for the large crowds attending New Hampshire activities. Adjoining Memorial Field a beautiful pond has been constructed for swimming, skating, hockey, and water sports.

Three minutes' walk from the Gymnasium is the new baseball field and other fields under construction.

On these fields are found practice grounds for football, soccer, class contests, as well as the regulation baseball diamond.

Requirements.—All men students in the freshman and sophomore classes are required to complete the prescribed work in Physical Education.

The gymnasium suit adopted by the department consists of a gray cotton sleeveless jersey, gray flannel trunks with blue trimming on leg seams, blue athletic stockings and rubber-soled tennis or basketball shoes. This suit must be worn at all class exercises in Physical Education.

The minimum requirement of each term's work calls for participation in some form of approved physical exercise for at least two periods weekly for 9 weeks.

Students may elect any scheduled activity desired, either as a member of an organized athletic squad or as a member of regular sections of an approved activity which has the greatest appeal for the individual concerned.

The activities which are offered at various times of the year are baseball, basketball, boxing, cross country, football, hockey, skating, skiing, snowshoeing, swimming, tennis, track, volleyball, in-door baseball and handball.

(*Consult Recreational Activity Booklet for Schedule of Approved Activities.*)

51–a. Physical Education. The program for the term consists of numerous seasonal activities. Students may elect activity desired. For students physically unfit, corrective gym work will be prescribed.

Required of all Freshmen. Work, 2 hrs.; 2 units.

52–b. Physical Education. Continuation of recreational activity program.

Required of all Freshmen. Work, 2 hrs.; 2 units.

53–c. Physical Education. Continuation of recreational activity program.

Required of all Freshmen. Work, 2 hrs.; 2 units.

54–a. Physical Education. Term's program consists of numerous seasonal activities. Students may elect activity desired. For students physically unfit, corrective gym work will be prescribed.

Required of all Sophomores. Work, 2 hrs.; 2 units.

55–b. Physical Education. Continuation of recreational activity program.

Required of all Sophomores. Work, 2 hrs.; 2 units.

56–c. Physical Education. Continuation of recreational activity program.

Required of all Sophomores. Work, 2 hrs.; 2 units.

PHYSICAL EDUCATION FOR WOMEN

KATHARINE WATSON, *Director*
BERTHA M. KIRK, *Assistant Professor*
MARGUERITE MURLLESS, *Instructor*

The aim of this department is to give to each woman student an opportunity to enter into activities of a wholesome, stimulating and enjoyable nature, which will enable her to reach her utmost of social, physical, and mental perfection.

Requirements: Every woman student must take at least one subject of practical work each term of her Freshman, Sophomore, and Junior years.

Prescribed major course requirements, page 84.

Every woman student must, upon entering, have a physical examination by the doctor provided by the University. The results of this examination determine the type of activity each may pursue.

Except in special cases, no more than four units in the same sport shall be credited.

Required costume.—White step-in blouse, black knickers, black stockings, and high or low black tennis shoes. This costume may be purchased at the University Athletic Store.

PRACTICAL SUBJECTS

Fall term.—Hockey, Soccer, Tennis, Swimming, Horseback riding, Individual Gymnastics, and Archery.

Winter term.—Basketball, Indoor Baseball, Natural Gymnastics, Folk and Clog Dancing, Natural Dancing, Skiing, Skating, Snowshoeing, Horseback riding, and Individual Gymnastics.

Spring term.—Outdoor Baseball, Field and Track, Tennis, Individual Gymnastics, Horseback riding, Archery, and Swimming.

1–a, 2–b, 3–c. Physical Education.
Required of Freshmen. Lab., 2 hrs.; 2 units.

1.5–a, 2.5–b, 3.5–c. Physical Education.
Required of Freshmen majoring in Physical Education. Lab., 4 hrs.; 4 units.

4–a, 5–b, 6–c. Physical Education.
Required of Sophomores. Lab., 2 hrs.; 2 units.

4.5–a, 5.5–b, 6.5–c. Physical Education.
Required of Sophomores majoring in Physical Education. Lab., 4 hrs.; 4 units.

7–a, 8–b, 9–c. Physical Education.
Required of Juniors. Lab., 2 hrs.; 2 units.

7.5–a, 8.5–b, 9.5–c. Physical Education.
Required of Juniors majoring in Physical Education. Lab., 4 hrs.; 4 units.

10–a, 11–b, 12–c. Physical Education.
Elective for Seniors. Lab., 2 hrs.; 2 units.

10.5–a, 11.5–b, 12.5–c. Physical Education.
Required of Seniors majoring in Physical Education. Lab., 4 hrs.; 4 units.

THEORETICAL SUBJECTS

13–a. Health Problems. Lectures and discussions on college health problems. Reference readings and reports.
Required of all Freshmen. Lec. or rec., 1 hr.; prep., 1 hr.; 2 units.

14–a, 15–b, 16–c. The Theory and Practice of Play. This course deals with the theory, nature, and function of organized play. Very useful for those who intend to do playground work. Not open to Freshmen.
Required of majors. Lec. or rec., 2 hrs.; prep., 2 hrs.; 4 units. (Given previously as 31–a, 32–b, 33–c.)

17–b. History of Physical Education. This deals with ancient, medieval, and modern forms of Physical Education and traces the development into the present type.
Lec. or rec., 3 hrs.; prep., 3 hrs.; 6 units.

18–a. Kinesiology. This course deals with a consideration of body mechanics, the muscles involved in various movements, etc.
Prerequisite: Zoöl. 33–a, 34–b, 35–c. Required of majors. Lec. or rec., 3 hrs.; prep., 3 hrs.; 6 units.

19–c. Scouting. This subject includes methods of organizing and conducting Girl Scout Troops, with special reference to subject material.
Required of majors. Lab., lec., or rec., 3 hrs.; prep., 3 hrs.; 6 units. (Given previously as 26–b.)

20–a, 21–b, 22–c. Folk and Clog Dancing. Intended chiefly for those especially interested in teaching Physical Education.
Required of majors. Lec. or lab., 2 hrs.; 2 units.

23–a, 24–b, 25–c, 26–a, 27–b, and 28–c. Physical Education. Deals with teaching material, team plays, methods of coaching, and other phases of the subject which are of interest to the prospective teacher.

Required of students majoring in Physical Education. (Given as 19–a, 20–b and 21–c. Prior to 1927–28.)

23–a. Technique of Soccer and Formal Gymnastics.

Lab., 2 hrs.; lec. or rec., 1 hr.; prep., 1 hr.; 4 units.

24–b. Technique of Indoor Baseball and Basketball.

Lab., 2 hrs.; lec. or rec., 1 hr.; prep., 1 hr.; 4 units.

25–c. Technique of Tennis, Archery and Outdoor Baseball.

Lab., 2 hrs.; lec. or rec., 1 hr.; prep., 1 hr.; 4 units.

26–a. Technique of Hockey and Natural Gymnastics.

Lab., 2 hrs.; lec. or rec., 1 hr.; prep., 1 hr.; 4 units.

27–b. Technique of Natural Dancing.

Lab., 2 hrs.; lec. or rec., 1 hr.; prep., 1 hr.; 4 units.

28–c. Technique of Track and Swimming.

Lab., 2 hrs.; lec. or rec., 1 hr.; prep., 1 hr.; 4 units.

29–a, 30–b, 31–c. Natural Dancing and Advanced Folk and Clog.

Required of students majoring in Physical Education. Lab., 3 hrs.; 3 units.

32–a, 33–b, 34–c. Practice Teaching. An opportunity is given to teach in the public schools under supervision of the college instructors.

Prerequisite: 14–a, 15–b, 16–c. Required of majors. Lab., 2 hrs.; prep., 1 hr.; 3 units.

35–a, 36–b. The Theory and Practice of Individual Gymnastics. This course is essentially an advanced course for those majoring in Physical Education.

Prerequisite: Physical Education 18–a. Lec. or rec., 2 hrs.; lab., 2 hrs.; prep., 2 hrs.; 6 units. (Given formerly as P. E. 22–a, 23–b.)

37–c. The Theory and Practice of Massage. This course is a continuation of 36–b.

Prerequisite: Physical Education 35–a, 36–b. Lec. or rec., 2 hrs.; lab., 2 hrs.; prep., 2 hrs.; 6 units. (Given formerly as P. E. 24–c.)

38–c. Curriculum Building. Instruction in teaching, adaptation, and preparation of lesson plans.

Lec. or rec., 2 hrs.; prep., 2 hrs.; 4 units.

PHYSICS

HORACE L. HOWES, *Professor*
CLEMENT MORAN, *Assistant Professor*
RAYMOND R. STARKE, *Instructor*
JOHN V. ADAMS, *Instructor*
CLAYTON W. HOLMES, *Instructor*

Major: 150 time units of departmental and related departmental subjects, exclusive of elementary subjects.

1–a, 2–b, 3–c. Introductory College Physics. The properties of matter, heat, magnetism, electricity, wave-motion, sound and light. The subject includes experimental lectures, laboratory exercises, recitations from Kimball's "College Physics." Mr. Howes, Mr. Moran, Mr. Starke, Mr. Adams.

Required of students in Architecture and in Agriculture. Elective for Arts students. Lec., 1 hr.; rec., 2 hrs.; lab., 2 hrs.; prep. and report writing, 3 hrs.; 8 units.

6–a, 7–b, 8–c. General Physics. Mechanics and properties of matter the first term, followed by heat and selected topics in sound and light the second term; magnetism and electricity the third term. Duff's "Physics" and Masius' "Problems in Physics" are used in recitation work. Mr. Howes, Mr. Moran, Mr. Starke.

Prerequisites: Mathematics 201–a, 202–b, and 203–c in advance and Mathematics 7–a, 8–b, and 9–c either in parallel or as a prerequisite. Required of Sophomore Engineers in the Chemical, Civil, Mechanical, Electrical and Industrial Courses. Elective for those Arts students who have passed Introductory College Physics and have the prerequisites in Mathematics. Rec., 3 hrs.; demonstration lecture, 1 hr.; prep., 4½ hrs.; 8½ units.

9–a. General Physics Laboratory. Open only to those students who are studying 6–a, or who have previously obtained credit for 6–a. Experiments in properties of matter and mechanics with report writing and curve-plotting. Reports are carefully criticized by the department and corrected by the student. The appreciation of the laws of physical science, with the development of laboratory technique and an estimation of the limitations of scientific experimentation is the aim. Mr. Moran, Mr. Starke, Mr. Adams, Mr. Holmes.

Prerequisite: The same as for *General Physics*. Required of Sophomores in Chemical, Civil, Mechanical, Electrical and Industrial Engineering Courses. Elective for Liberal

Arts students under the same conditions as those specified for Physics 6–a. Lab., 5 hrs.; report writing and graphical representation of data, 6 hrs.; 11 units.

10–b. General Physics Laboratory. A continuation of Physics 9–a to include experiments in heat, sound and light. Mr. Moran, Mr. Starke, Mr. Adams, Mr. Holmes.

Prerequisites: Physics 6–a and 9–a. Physics 7–b in parallel or as a prerequisite. Lab., 5 hrs.; report writing, 5 hrs.; 10 units.

11–c. General Physics Laboratory. A continuation of Physics 10–b to include experiments in electricity and magnetism. Mr. Moran, Mr. Starke, Mr. Adams, Mr. Holmes.

Prerequisites: Physics 6–a, 7–b, 9–a, 10–b. Physics 8–c in parallel or as a prerequisite. Lab., 5 hrs.; report writing, 5 hrs.; 10 units.

13–c. Elementary Optics and Photography. Lectures and recitation on the fundamental principles of geometrical optics as applied to photographic instruments. The laboratory is devoted to the study of focal planes, images and other properties of lenses, together with the making of photographs. Students will furnish their supplies. Mr. Moran.

Prerequisites: Physics 1–a, 2–b, 3–c, or the equivalent. Not open to Freshmen. Rec., 1 hr.; lec., 1 hr.; lab., 2 hrs.; prep., 4 hrs.; 8 units.

15–a. Theory of Electrons. A brief study of the theory of electricity to include the passage of a current through a gas by ions, the mobility of ions, the determination of the charge and mass of an electron, ionization by collision, the corona discharge, cathode rays, positive rays, thermionic emission, photo-electricity, X-Rays. Mr. Howes.

17–a, 18–b, 19–c. Pre-Medical Physics. An intensive course in the General Principles of Physics with especial attention to the needs of students in preparation for medical work. Mr. Starke.

Open only to Juniors and Seniors in the Pre-medical Course. Lec. or rec., 3 hrs.; lab., 4 hrs.; preparation and report writing, 7 hrs.; 14 units.

25–b. Advanced Physics for Teachers. The aim is to study the most difficult topics to teach to high school or academy students. One standard college text and several high-school texts are used as reference books. Mr. Howes.

Prerequisite: A one-year course in college Physics. Open only to Juniors and Seniors. Rec., 2 hrs.; lec., 1 hr.; prep., 4½ hrs.; 7½ units. (Given in alternate years.)

28–b, 29–c. Advanced Laboratory for Students in Architecture. Experiments with carefully criticized reports on the stresses in solids, pressure in fluids, transmission of heat, resonance of sound waves, velocity of sound in air and solids, intensity of light sources and distribution of illumination, the measurement of electric current, etc. Mr. Adams.

Prerequisites: For 28–b, Physics 1–a; for 29–c, Physics 2–b. Open only to students in Architecture. Lec., 1 hr.; lab., 2½ hrs.; report writing, 2 hrs.; 5½ units.

32–a, 33–b, 34–c. Household Physics. A study of the principles of Physics with applications to household processes and appliances. Mr. Moran.

Required of Sophomores in Home Economics. Not open to Freshmen. Rec., 2 hrs.; lab., 2 hrs.; prep., 4 hrs.; 8 units.

37–c. Advanced Electrical Measurements. Laboratory work on such problems as battery resistance by a potentiometer method, conductivity of electrolytes, low resistance by the Kelvin bridge, high resistance measurement, magnetic permeability, capacitance and inductance measurements, thermo-junction calibration, pyrometry. Mr. Moran.

Prerequisites: Physics 8–c and 11–c. Required of Seniors in Electrical Engineering. Rec., 1 hr.; lab., 4 hrs.; prep., 2 hrs.; 7 units.

POLITICAL SCIENCE

THORSTEN KALIJARVI, *Assistant Professor* (*Acting Head*)
CHARLES PATTEE, *Graduate Assistant*

Major: 150 time units of Political Science or related subjects, exclusive of 101–a, 102–b, and 103–c.

GROUP I

INTRODUCTORY COURSES

101–a, 102–b, 103–c. An Introduction to the Principles and Theories of Political Science. All majors in the department are expected to take this course. It treats with fundamentals in political science as they have come to us from the days of Plato and Aristotle. Classes will be largely

devoted to lectures occasionally supplemented with a discussion. Text. Collateral reading. Mr. Kalijarvi.

Open to Sophomores with a course in History, or to such as intend to major in the department. Lec. or rec., 3 hrs.; prep., 3 hrs.; 6 units.

104–a. American Government. A discussion of both federal and state governments in the United States. A text and collateral reading will be required. Classes will be largely discussion supplemented by an occasional lecture. Mr. Kalijarvi.

Open to Sophomores, Juniors and Seniors who have had some Political Science or History. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

105–b. Constitutional Law. The aim in this course is to supplement in part 104–a, but more especially to survey the constitutional development of this country and government in the terms of supreme, federal, and state court decisions. A text is required and there is considerable reading from supreme court and state reports. Mr. Kalijarvi.

Open on the same terms as 104–a. Purely discussion. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

106–c. Municipal Government. This is the logical conclusion to a complete survey of local, state, and federal government in the United States, which 104–a and 105–b begin. The stress naturally is laid on municipal administration, particularly with an emphasis on such new plans as the city manager types of local government. Mr. Kalijarvi.

Open on the same basis as 104–a and 105–b. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

107–a, 108–b. European Governments. A survey of the British and continental systems of government. Details will be stressed only as time will permit. Discussion very largely. Mr. Pattee.

Prerequisites: History 101–a or its equivalent. Consent of the instructor in special cases may override requirements. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

109–c. Colonial Governments. This course in other universities is given different names, *i.e.*, imperialism, world government, etc. It is the logical successor to 107–a and 108–b. The development of colonial empires such as those of England, France, Italy, United States, and former Germany will be taken up. Mainly lecture. Mr. Pattee.

Prerequisite as in 107–a and 108–b. Lec. or rec., 3 hrs.; prep., 4½ hrs.; 9 units.

GROUP II

INTERMEDIATE COURSES

113–a, 114–b, 115–c. International Law. The study of the law governing the relations among the various states. Primarily discussions supplemented by the weekly preparation of hypothetical cases. Mr. Kalijarvi.

Prerequisite: 101–a, 102–b, 103–c. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

116–a, 117–b. Comparative Government. A survey of the theories underlying governments in general. The field is limited by human experience. Governments of Latin America, the Orient, Europe, and other parts of the world will be discussed. Almost wholly a lecture course. Mr. Pattee.

Open to any major in the department, or to those who have had any work in the field from 104–a to 109–c. Also admission to the class may be obtained with the consent of the instructor. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

118–c. Introduction to Jurisprudence. A study of the generalized principles of law and legal institutions with an object of giving the students a background for law. Discussion and lecture. Mr. Pattee.

Prerequisite: The student must have taken or be taking one of the subjects in Group II. Lec. or rec., 2 hrs.; prep., 6 hrs.; 8 units.

GROUP III

ADVANCED COURSES

119–a, 120–b, 121–c. Political Theory. To meet one hour a week for majors in the department when they have reached their junior year. Also for graduate students. The work will be directed reading in Political Science with an occasional lecture on bibliography, sources of material, current political theories supplementing those in 101–a, 102–b, and 103–c, etc. Mr. Kalijarvi.

Lec. or rec., 2 hrs.; prep., 6 hrs.; 8 units.

122–a, 123–b, 124–c. Seminar. To meet every two weeks at a convenient hour. Mr. Kalijarvi.

Open to all majors and graduate students. Others admitted only at the discretion of the head of the department. Papers will be prepared on assigned topics and reports made under the guidance of the head of the department or a proxy. Lec. or rec., 1 hr.; prep., 3 hrs.; 4 units.

125–a, 126–b, 127–c. Research and Thesis. Mr. Kalijarvi.

Required of all graduate students. Open to Seniors majoring in the department. A flexible way of testing out the student who must conduct original research himself under the supervision of the head of the department. He will be directed and instructed in the methods of research by conference. Credits, according to the amount of time devoted to research. Can be taken only by undergraduates with the consent of the head of the department. Entirely by conference; hours to range from 4 to 7½ for undergraduates; and from 4 to 15 for graduates.

128–a, 129–b, 130–c. International Relations, or World Government. A study of the forms of international organizations and the various attempts at the settlement of international difficulties. This course deals with the rise of the modern nations and their relations to each other. Mr. Kalijarvi.

Lec. or rec., 2 hrs.; prep., 10 hrs.; 12 units.

POULTRY HUSBANDRY

ALTON W. RICHARDSON, *Professor*
ELTON M. GILDOW, *Instructor*
WALTER WISNICKY, *Instructor*
HOMER O. STUART, *Instructor*

1–a. Farm Poultry. A general subject in poultry husbandry, taking up the breeds, housing, incubation, brooding, feeding, breeding, culling and selection, and management. Mr. Richardson and Mr. Stuart.

Required of all Sophomores in Agriculture except those in Forestry. Lec., 2 hrs.; lab., 2½ hrs.; prep., 2½ hrs.; 7 units.

3–b, 4–c. Home Poultry for Girls. A subject designed to aid in giving a practical knowledge of poultry to girls who are taking the course in Home Economics and also to any girls in the Liberal Arts courses who may be interested. Mr. Richardson.

Lec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

5–a. Poultry Management. A subject in poultry management in which the students lay out plans for, and make drawings of, a 1,000-bird poultry plant, taking into consideration every phase of management. Mr. Richardson.

Prerequisites: Poultry 1–a, or 3–b, or 4–c. Required of all Juniors in Poultry; elective for others. Lec., 3 hrs.; lab., 1 hr.; prep., 5 hrs.; 9 units.

6–b. Poultry Diseases. A subject treating of the anatomy of fowl, with clinics showing various common poultry diseases, and lectures giving methods of prevention and cure. Mr. Wisnicky.

Prerequisites: 1–b, or 3–a, or 4–b. Required of all Juniors in Poultry; elective for others. Lec., 3 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 10 units.

7–b. Incubation. A study of the theories involved in incubation and brooding, with each student running an incubator, keeping all the necessary records, and taking care of a brood of 400 chicks. Mr. Richardson and Mr. Stuart.

Prerequisites: Poultry 1–a, or 3–b, or 4–c. Required of all Seniors in Poultry; elective for others. Lec., 3 hrs.; lab., 5 hrs.; prep., 3 hrs.; 11 units.

9–c. Poultry Feeding. A subject dealing with the principles of feeding, and the comparative value of various grains and feeds used in poultry feeding. Each student is obliged to do practical work in feeding and caring for a flock of 500 hens. Mr. Richardson and Mr. Stuart.

Prerequisites: Poultry 1–a, or 3–b, or 4–c. Required of all Seniors in Poultry; elective for others. Lec., 3 hrs.; lab., 5 hrs.; prep., 3 hrs.; 11 units.

10–a. Poultry Breeding. A subject giving the theory and practice involved in breeding for egg production, including practical work in the selection of breeding stock. Mr. Gildow.

Prerequisites: Poultry 1–a, or 3–b, or 4–c. Required of all Seniors in Poultry; elective for others. Lec., 3 hrs.; prep., 4 hrs.; 7 units.

11–b. Poultry for Teachers. This subject is designed to give to Teacher Training students the information which they will need in teaching Poultry in secondary schools. Open to Teacher Training students only. Mr. Richardson.

Lec., 1 hr.; lab., 2½ hrs.; prep., 1½ hrs.; 5 units.

12–c. Poultry Brooding. This is a laboratory subject designed to give to Teacher Training students special information in the care and management of a brood of chicks. Open to Teacher Training students only. Mr. Stuart.

Lab., 4 hrs.; 4 units.

13–c. Poultry Practice. This subject is designed to give the student practical work at a successful poultry plant, somewhere in the state of New Hampshire, in the hatching and rearing of chickens. The student will be obliged to spend the time from April 1 to September 1 on a poultry plant to be selected by the head of the department.

Required of all Juniors in Poultry. 50 units.

14–a, 15–b, 16–c. Poultry Research. In this subject the student makes a study of some poultry problem, getting such accurate and detailed information as will add materially to his fund of knowledge. Mr. Richardson and staff.

Required of all Seniors in Poultry. Hours to be arranged. 6 to 9 units.

17–b. Poultry Marketing. A study of the market classes of poultry and eggs, their preparation for market, packages used, the storage of poultry, the storage and preservation of eggs and the judging and scoring of eggs and poultry. Mr. Stuart.

Required of all Juniors in Poultry; elective for others. Lec., 3 hrs.; prep., 4 hrs.; 7 units.

22–c. Poultry House Design and Construction. In this subject the students design and build a hen house. This house is to be used each year by some student who wishes to keep hens while at the college or who wishes to grow a brood of chicks to be sent home at the end of the college year. Mr. Stuart.

Required of all Seniors in Poultry; elective for others. Lab., 2 hrs.; prep., 1 hr.; 3 units.

23–b. Poultry Breeds and Judging. The history, characteristics and classification of the different breeds of poultry. Laboratory will consist of practice in judging and scoring of fowls from the utility standpoint. Mr. Stuart.

Required of Poultry Seniors; elective for others. Lec., 2 hrs.; lab., 2½ hrs.; prep., 2 hrs.; 6½ units.

31–a, 32–b, 33–c. Poultry Seminar. A seminar subject where each student studies recent bulletins on poultry subjects, writes abstracts of them, and delivers to the class an opinion on these bulletins. An opportunity is given for students to do some research work. Mr. Richardson.

Prerequisites: Poultry 1–a, or 3–b, or 4–c. Required of all Seniors in Poultry; elective for others. Lec., 3 hrs.; prep., 2 hrs.; 5 units.

SCIENCE SURVEY

1–a, 2–b, 3–c. Science Survey. Lectures and reference material covering an historic and contemporary survey of natural science, given by the heads of departments of Botany, Chemistry, Mathematics, Physics, Zoölogy, and others selected from fields closely related to this basic group. Class exercises, written reports and conferences.

Required in the Colleges of Technology and Agriculture. Elective in the College of Liberal Arts. Recommended for those majoring in Mathematics and Natural Science. Directed by the Dean of the College of Liberal Arts. Lec., 1 hr.; prep., 1 hr.; 2 units.

SOCIAL SCIENCE

1–a, 2–b, 3–c. Social Science. Social Viewpoints, an introduction to the Social Sciences. Various approaches to the problems of human society will be made, taking by turn the points of view of the anthropologist, the biologist, the historian, the economist, the sociologist, etc. The influence of physical environment upon man, the evolution of the major institutions and the significance of some of the problems confronting society will be discussed.

Required as a group elective for Freshmen in Liberal Arts. A prerequisite for Education, History, Philosophy, Psychology, and Sociology. Elective for Sophomores by permission. Directed by the Dean of the College of Liberal Arts. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

SOCIOLOGY

Albert N. French, *Professor*
Eugene A. Bishop, *Assistant Professor* (*In charge*)
Esther L. Brown, *Assistant Professor*
Philip M. Marston, *Instructor*
Roland Partridge, *Instructor*

Major: 150 time units of departmental and related departmental subjects, exclusive of elementary subjects.

The Sociology Department is not primarily interested in Sociology in its vocational aspects. Very limited opportunities are offered to such majors as are inclined to follow certain specialized lines of social service, but the departmental effort is directed chiefly toward the creation of social points of view and attitudes of a cultural and avocational nature. The desire is to furnish a critical and constructive approach to programs

of reform and to give a sound basis of information for intelligent citizenship. Human values and social welfare as achieved through a knowledge of social origins, social evolution, social institutions and social philosophy are the ends for which the work of the department chiefly exists.

Initial Subjects—Group A

Prerequisite: Sophomore standing.

14–a, 15–b, 16–c. Principles of Sociology. An introduction to the method, material and phenomena of Sociology. An attempt is made to present Sociology as a science, having so far as is possible the procedures and method of other sciences.

Required of all majors in Sociology. Prerequisite: Social Science 1–a, 2–b, 3–c. Psychology 1–a, 2–b, 3–c or Zoölogy 1–a, 2–b, 3–c might well be taken as a parallel subject. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

21–b. Social Theory. A comparative study of theories of society in the light of social history.

Prerequisite: Social Science 1–a, 2–b, 3–c. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

Secondary Subjects—Group B

Prerequisites: Junior standing or 15 time units of "initial subjects" (Group A).

17–a. Social Psychology. A study of human traits in so far as these are basic to a study of social personality and social psychology.

Required of all majors. Prerequisite: 3 terms of major standing or instructor's permission to register. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

18–b. Societal Psychology. A further study of the principles of social psychology and social control. A more detailed analysis of the social dynamics of our social order, of nature and nurture, of modifying human traits, of heredity and social environment, of collective behavior and creative experience.

Prerequisite: Major standing or instructor's permission to register. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

19–c. Man and Culture. A comparative study of social origins, of theories of human society, of social control and of adaptive culture.

Prerequisite: Major standing or instructor's permission to register. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

Prerequisites: Junior standing or 15 time units of "initial subjects" (Group A) with additional work in Economics or Political Science or Psychology or Biology or History.

24–a. Social Dynamics. A study of the principles of social change in light of modern biology, psychology, education and other social sciences. The work will be a combination of lectures and student class room discussion.

Prerequisite: Preliminary study in general Psychology. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

25–b. Social Amelioration. A consideration of the possibilities and problems of a program for human betterment in light of past and prevailing social theories and modern scientific knowledges and methods.

Given in sequence with 24–a and with similar prerequisites. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

26–c. Social Ethics. A study of social ethics, social pathology and social engineering.

Given in sequence with 24–a and 25–b. Lec. or rec., 3 hrs.; prep., 6 hrs.; 9 units.

Prerequisites: Evidence of a major in industrial, educational or agricultural lines with a knowledge of principles in Business Fundamentals, Education, Psychology and Sociology.

27–a. Industrial Sociology. A consideration of some of the social problems which arise in connection with modern industrial organization and activity.

Rec. or lec., 2 hrs.; prep., 4 hrs.; 6 units.

28–b. Rural Sociology. A study of certain problems and conditioning factors and influences of rural life, trends in quality and quantity of rural population and of suggested remedial measures for rural improvement.

Required of Juniors in Agricultural Teacher Training. Lec. or rec., 2 hrs.; prep., 4 hrs.; 6 units.

29–c. Educational Sociology. A study of educational procedures considered in the light of psychological theory and dynamic sociology.

Prerequisite: A professional interest in teaching. Required of Seniors in Home Economics Teacher Training. Lec. or rec., 2 hrs.; prep., 4 hrs.; 6 units.

2–b. Communities and Territorial Groups. An empirical study of problems in social relations, in social change, in community organization,

etc. A comparative study of the rural community and its problems, the city and its areas, communal organizations and human geography.

Lec. or rec., 2 hrs.; prep., 4 hrs.; 6 units.

Advanced Subjects—Group C

Prerequisite: Senior college standing and a satisfactory average in 100 units of departmentally approved courses.

30–a, 31–b, 32–c. Seminar: Sociological Research. Provision is here made for limited field work and for library research.

Class will be limited to a bulletined list of eligibles. Sociology majors given the preference. 2 hour recitation once each two weeks. 4 hours preparation per recitation. 3 units.

33–c. Seminar: Professional Research. Methods of teaching social science in high school and junior college are studied. Objectives, selection, organization and presentation of content are analyzed.

(Given formerly as 31–b.) Seniors planning to teach may request invitation. 2 hour recitation once each two weeks. 4 hours preparation. 3 units.

ZOÖLOGY

C. Floyd Jackson, *Professor*
Alma D. Jackson, *Assistant Professor*
Edythe M. Tingley, *Instructor*
Donald G. Barton, *Instructor*
Dorothy T. Smith, *Graduate Assistant*

Major: 150 time units in this and related departments, exclusive of elementary subjects.

Graduate work: For subjects primarily for graduate study see Catalog of the Graduate School.

Courses in the Department of Zoölogy are divided as follows:

Group A is primarily for Liberal Arts students, pre-medical students, and those majoring in Zoölogy. Students from other courses may, however, elect from this group, provided they have the proper prerequisites.

Group B includes the required subjects in Agriculture and Home Economics, as well as certain other electives for either Agriculture, Home Economics or Liberal Arts students.

Group C includes advanced subjects primarily for major or pre-medical students.

NOTE: Students desiring to prepare for Medical or Dental Schools will consult the head of the department.

Group A. Liberal Arts Subjects

1–a, 2–b, 3–c. Principles of Zoölogy. An elementary study of the principles of life, its development, structural basis and physiological activity. The subject is continuous throughout the year. This subject is intended to give a practical knowledge of animal life, and is required of all pre-medical students and others intending to major in the Department of Zoölogy. Students are advised to carry the laboratory work (Zoölogy 4–a, 5–b and 6–c) parallel with this subject. Mr. Jackson.

Freshmen subjects. Lec. or rec., 3 hrs.; lab., 2 hrs.; prep., 5 hrs.; 10 units.

4–a, 5–b, 6–c. Elementary Laboratory. Laboratory exercises for the purpose of studying the various types of animal life and their relation to the environment.

Emphasis will be placed on the classification and structure of the different forms studied.

Required of Zoölogy majors. Prerequisite: Zoölogy 1–a, 2–b, 3–c which may be carried as a parallel subject. Freshman or Sophomore subject. Lec. or rec., 1 hr.; lab., 2½ hrs.; prep., 1½ hrs.; 5 units.

7–a. Cytology. A detailed study of cells, including morphology, physical nature of protoplasm, mitosis, meiosis, syngamy and related phenomena. This subject is intended to be a foundation for advanced work in Histology, Embryology, and Genetics. Students are advised to carry the laboratory work (10–a) parallel with this subject. Miss Tingley.

Prerequisite: Zoölogy 3–c. Sophomore subject. Required of all pre-medical students. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

8–b, 9–c. Comparative Neurology. A detailed study of the human nervous system and its physiology and a comparative study of the nervous systems of the lower animals. This subject is intended to give a practical knowledge of the nervous mechanism and its operation. Laboratory 11–b and 12–c should be carried as parallel subjects. Miss Tingley.

Prerequisite: Zoölogy 3–c. Required of all pre-medical students. Sophomore subject. Lec. or rec., 3 hrs.; prep., 7 hrs.; 10 units.

10–a. Cytological Laboratory. Laboratory exercises for demonstrating the principles of mitosis, meiosis, syngamy and cell structure. Miss Tingley.

Prerequisite: Zoölogy 7–a carried as a parallel subject. Lab., 2½ hrs.; prep., 1½ hrs.; 4 units.

11–b, 12–c. Neurological Laboratory. Laboratory exercises for studying the comparative structure and functions of the nervous system based on dissections and experimentation. Miss Tingley.

Prerequisite: Zoölogy 8–b, 9–c carried as parallel subjects. Lab., 2½ hrs.; prep., 1½ hrs.; 4 units.

13–a, 14–b, 15–c. Hygiene and Sanitation. A detailed study of the principles of health preservation. This subject is continuous throughout the year and should, if possible, be preceded by work in Physiology. Mr. Jackson.

Prerequisite: 1 year of Zoölogy. Lec. or rec., 3 hrs.; prep., 4 hrs.; 7 units.

16–a, 17–b, 18–c. Evolution and Genetics. Lectures and assignments dealing with the various problems of evolution and their relation to human life. Evidence of man's origin based on anatomical, embryonic and paleontological data will be discussed. A special emphasis will be given to the racial identity, origin and derivation of the English-speaking people. Work in evolution should, if possible, be preceded by a study of Comparative Physiology (Zoölogy 7–a, 8–b and 9–c). Mr. Jackson.

Prerequisite: 2 years of Zoölogy. Lec. or rec., 3 hrs.; prep., 4 hrs.; 7 units.

19–a, 20–b, 21–c. Advanced Zoölogy. Arranged to suit the need of students who wish to specialize in Zoölogy. Two lectures a week will deal with the teaching of Zoölogy; methods of presenting the subject both in high schools and colleges; methods of conducting laboratory classes; the grading of examination papers and the preparation of laboratory material. In addition students may choose for laboratory work some special subject for investigation.

Prerequisite: This subject may not be elected except by students who have completed at least 75 units in Zoölogy or Entomology with an average grade of at least 80. Open

only to students by special permission. Credit and hours to be arranged.

28–a. First Aid and Home Care of the Sick. This subject deals with the first aid treatment of minor injuries such as fractures, wounds, hemorrhage, and methods of procedure in drowning accidents and the home care of the sick. Dr. Topham.

Prerequisite: Human Physiology. Lec. or rec., 2 hrs.; lab., 2½ hrs.; prep., 2 hrs.; 6 units.

Group B. Agricultural and Home Economics Subjects

30–b, 31–c. General Zoölogy. A detailed study of the fundamental principles of life; the nature and physiology of protoplasm; the structure of the cell and the processes of cell division. The structure and physiology of man will be discussed in detail. Mr. Barton.

Required of Freshmen in Agriculture. Lec. or rec., 2 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 8 units.

32–a. Genetics. A detailed study of the physical basis of inheritance, laws governing Mendelian inheritance, and the application of such laws to plant and animal breeding. (Same content as 17–b.) For agricultural students.

Lec. or rec., 2 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 8 units.

33–a, 34–b, 35–c. Human Anatomy and Physiology. A survey of the structure and function of the human body, with a study of the fundamental principles of hygiene as applied to the different systems. Collateral readings, written reports and conferences required. Miss Tingley.

Required of Sophomores in Home Economics. Elective for Liberal Arts Sophomores not having credit in 2–b and 3–c. Lec. or rec., 2 hrs.; lab., 2 hrs.; prep., 3 hrs.; 7 units.

Group C. Advanced Major and Pre-medical Subjects

36–a, 37–b, 38–c. Histology. A study of the detailed structure of vertebrate animals, cell specialization and the manner in which tissues are combined into organs. The subject is of special interest for pre-medical students, those interested in becoming laboratory technicians or in teaching Zoölogy. A great deal of attention is paid to general histological technique.

Prerequisite: 2 years' work in Zoölogy. Junior subject. Lec. or rec., 2 hrs.; lab., 6 hrs.; prep., 4 hrs.; 12 units.

39–a, 40–b, 41–c. Embryology. A detailed study of invertebrate and vertebrate embryos and their method of development. The first term's work is a study of the invertebrates, beginning with Protozoa and closing with the Arthropoda. The second term is spent on the study of the chick. Eggs are incubated and slides prepared of the embryos for microscope study. The third term deals entirely with Mammalian embryology, special attention being given to the study of the human fœtus. Laboratory specimens of the various types of embryos are studied. The subject is primarily for pre-medics and advanced Zoölogy students.

Prerequisite: 2 years' work in Zoölogy. Senior subject. Lec. or rec., 3 hrs.; lab., 4 hrs.; prep., 5 hrs.; 12 units.

42–a, 43–b, 44–c. Advanced Physiology. An advanced study of human physiology with special emphasis on nutrition, circulation, respiration, excretion and secretion. The work will consist of lectures, assigned topics and laboratory experiments. Miss Tingley.

Prerequisite: 2 years' work in Zoölogy. Lec. or rec., 3 hrs.; lab., 4 hrs.; prep., 5 hrs.; 12 units.

45–a, 46–b, 47–c. Comparative Anatomy of the Vertebrates. A careful study of the anatomy of the vertebrate animals. The first term's work is osteology and myology; the second term considers the digestive and vascular systems; the third, respiratory, excretory, reproductive, and endocrine systems. Laboratory dissections are made of each type of vertebrate. This is a fundamental course for pre-medical students, students of Physical Education, or those interested in advanced Zoölogy.

Prerequisites: Zoölogy 1–a, 30–a or 33–a. Junior subject. Lec. or rec., 3 hrs.; lab., 5 hrs.; prep., 4 hrs.; 12 units.

Zoölogy 100–a, b, c. Zoölogy Honors. Each term the head of the Department of Zoölogy will permit not more than two percent of the most proficient students in Zoölogy to transfer to this subject. This will consist of the work elected and such additional work as may be prescribed, which will include conferences and a thesis; to be followed at the close of the term with a comprehensive examination which may include all previous work taken in the department.

Prerequisites: Special appointment. Credit: To be arranged.

THE TWO-YEAR COURSE IN AGRICULTURE

FREDERICK W. TAYLOR, *Dean*

The University offers a two-year course in Agriculture, established in 1895 for the purpose of affording an opportunity for the boys of the state to acquaint themselves with the fundamental principles and with the latest and most approved practices of agriculture. This course is arranged especially for the young men who wish to make a business of dairying, livestock raising, poultry, horticulture or general farming, but who do not have the time, money or preparation to take a regular four-year course.

The classes of the two-year course are separate and distinct from those of the four-year courses. The work of the first year is in part a study of the sciences like chemistry, botany and physiology which underlie successful plant and animal production. In short, the student is made to understand the scientific reasons for our common farm practices. The second year contains numerous elective subjects which make it possible for students to spend at least a third of their time in specializing along some particular line of work in which they expect to engage later on.

The two-year course consists of two terms of twelve weeks each for two years. Students may enter at the beginning of the winter or spring term, although we advise them to enter only at the beginning of the course in January. The course closes each year at Commencement time in June, which enables the student to have about six months in which to earn money for his second year's work.

The work of this course is made as thorough and practical as the limited time will permit. The students are given practice both in the laboratory and in the field in doing the very things which are taught them in the classroom. At least ten hours per week are devoted to practical work in the shops, the orchard and gardens, the barns, the poultry plant or the woods.

Military Art is not required of two-year students, but any student desiring to take this subject may elect it with the four-year students.

Entrance Requirements.—The two-year course is open to both young men and young women. The only entrance requirements are a common school education involving a reasonable knowledge of reading, writing, spelling, arithmetic, English grammar, geography and United States history. The course is best adapted to students from 17 to 21 years of

age. Older students frequently take the course, but younger ones are not encouraged to enter.

Tuition and Fees.—The tuition for students who are residents of New Hampshire is $85 per year. For out-of-state students the tuition is $135 per year. One-half the tuition is payable at the beginning of the winter term; the other half at the beginning of the spring term.

Scholarships.—The University grants to residents of the state a limited number of scholarships which cover half the tuition charges. Students desiring to secure scholarships should apply to the Dean of the Faculty, Durham, N. H.

Expenses.—The expenses of this course will vary with the tastes and frugality of the students. An estimate of the expenses for one year is as follows:

	High	*Average*	*Low*
Tuition	$135	$85	$42.50
Books	20	15	10
Room	60	50	40
Board	140	140	140
Laundry	20	15	10
Incidentals	40	30	20
	$415	$335	$262.50

Farm Experience Requirement.—In order to graduate from this course every student must present satisfactory evidence of having had practical experience in farm work, either through having worked on a farm for at least two years after he was 12 years of age, or through having worked on a farm for at least four months after he was 15 years of age.

Opening—Closing.—The course for this year will open Monday, January 2, 1929, and will close Monday, June 16, 1929. A spring recess of seven days is given.

Certificate of Graduation.—No degree is given at the end of this course, but a "Certificate of Graduation" is presented to all students who complete the prescribed course of 184 units or its equivalent.

TWO-YEAR COURSE OF STUDY

First Year	Winter Term Units	Spring Term Units
Eng. 201–b, 202–c (*Grammar and Elementary Composition*)	7½	7½
Bot. 201–b (*Elements of Botany*)	7	
Bot. 202–c (*Fungus Diseases of Plants*)		4½
Agri. Chem. 201–b, 202–c (*Chemistry*)	8	8
D. H. 201–b (*Farm Dairying*)	7½	
Hort. 201–c (*Fruit Growing*)		7
Zoöl. 201–c (*Physiology and Hygiene*)		7
A. H. 201–b (*Types and Breeds*)	9	
M. E. 201–b (*Agricultural Drawing*)	5	
M. E. 202–c (*Forge*)		2½
M. E. 203–c (*Wood Work*)		5
P. E. 52–b, 53–c (*Physical Education*)	2	2
Convocation	1	1
	47	44½

Second Year		
Agron. 201–c (*Farm Equipment*)		8
Agron. 203–b (*Soils*)	7	
Agron. 202–c (*Field Crops*)		7
For. 201–c (*Farm Forestry*)		8
P. H. 201–b (*Farm Poultry*)	7	
Ent. 201–b (*Economic Entomology*)	7½	
P. E. 55–b, 56–c (*Physical Education*)	2	2
Convocation	1	1
Electives from subjects listed below	22	20
	46½	46

Electives		
Agr'l Ec. 201–b (*Farm Management*)	9	
Agr'l Ec. 202–b (*Farm Accounts*)	5	
Agron. 204–b (*Manures and Fertilizers*)	7	
A. H. 202–b (*Feeds and Feeding*)	7½	
A. H. 203–b (*Anatomy*)	7½	
D. H. 204–b (*Market Milk*)	7½	
D. H. 205–b (*Cheese and Ice Cream*)	10	
Hort. 203–b (*Greenhouse Management*)	7	
Hort. 204–b (*Home Decoration*)	8	
Hort. 205–b (*Orchard Problems*)	8	
Hort. 207–b (*Advanced Horticulture*)	4–8	
P. H. 203–b (*Poultry Diseases*)	10	
Agr'l Ec. 203–c (*Rural Economics*)		7
A. H. 204–c (*Animal Diseases*)		7½
A. H. 205–c (*Animal Breeding*)		7½
D. H. 202–c (*Milk Production*)		7½
D. H. 203–c (*Butter Making*)		7½
Hort. 202–c (*Vegetable Gardening*)		7
Hort. 206–c (*Small Fruits*)		7
Hort. 208–c (*Advanced Horticulture*)		4–8
Hort. 209–c (*Beekeeping*)		7
P. H. 202–c (*Farm Poultry*)		7
P. H. 204–c (*Poultry Feeding*)		11

*DESCRIPTION OF SUBJECTS OF TWO-YEAR COURSE IN AGRICULTURE

FREDERICK W. TAYLOR, *Dean*

AGRICULTURAL ECONOMICS

201–b. Farm Management. Textbook, lectures, and recitations relating to farming as a business. Problems of marketing, buying, size, cropping systems, balance in organization, etc., will be analyzed. Mr. Eastman.

Elective, second year. Lec., 2 hrs.; lab., 2 hrs.; prep., 5 hrs.; 9 units.

202–b. Farm Records and Accounts. Lectures and practical farm problems relating to the use of accounts and research information in farming. Actual farm figures will be used. Mr. Eastman.

Elective, second year. Lec. and lab., 2 hrs.; prep., 3 hrs.; 5 units.

203–c. Rural Economics. A subject intended to acquaint the Two-Year man before he leaves college with some of the outstanding agricultural questions of economic significance and their relation to theoretical and practical economics. Rent, interest, speculation, prices, and government control will be briefly treated as well as subjects of personal interest to members of the class. Mr. Eastman.

Elective, second year. Lec., 3 hrs.; prep., 4 hrs.; 7 units.

AGRONOMY

201–c. Farm Equipment. This subject will include the mapping of farms, leveling for drains, a study of farm implements and of farm buildings. Practical exercises are given in map making, laying out drains, comparing farm machines, rope slicing, etc. Mr. Taylor.

Required second year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 8 units.

202–c. Field Crops. Lectures and recitations on the culture, uses and value of the field crops grown in New England. Laboratory practice will include seed testing, seed identification, corn and potato judging, hay judging, and a study of the different legumes, grasses and grains. Mr. Eastman.

*Only Two-Year students in Agriculture are admitted to these subjects, except by special arrangement with the Dean.

Required second year. Lec. and rec., 2 hrs.; lab., 2 hrs.; prep., 3 hrs.; 7 units.

203–b. Soils. Text-book and recitations upon the physical and chemical properties of soils. The subject will be made as practical as possible in its application to farm work. Laboratory experiments will be performed to illustrate the principles studied. Mr. Eastman.

Required second year. Lec. and rec., 2 hrs.; lab., 2 hrs.; prep., 3 hrs.; 7 units.

204–b. Manures and Fertilizers. Text-book and recitations upon the constituents of farm manures, the home-mixing of fertilizers, and the modifications required by different soils and crops. Mr. Taylor.

Elective second year. Lec. and rec., 3 hrs.; prep., 4 hrs.; 7 units.

ANIMAL HUSBANDRY

201–b. Types and Breeds of Livestock. A study of the different breeds of horses, cattle, sheep, and swine in respect to their origin, history, development, characteristics, and adaptability to different conditions of climate and soil. One afternoon each week is devoted to judging the different breeds. Mr. McNutt.

Required first year. Lec. and rec., 3 hrs.; lab., 2 hrs.; prep., 4 hrs.; 9 units.

202–b. Feeds and Feeding. An elementary study of the laws of nutrition, the character, composition, and digestibility of feed stuffs, and the methods of feeding different kinds of farm animals. Numerous samples of grains and by-products are used for the purpose of familiarizing the students with the different feed stuffs. Practice is given in calculating rations for various purposes. Mr. McNutt.

Required second year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

203–b. Anatomy of Farm Animals. Lectures and recitations upon the form and structure of the domesticated animals. Skeletons, various anatomical specimens, models, charts, and lantern slides are used to make the subject as practical as possible. The purposes of this subject are to show the relation between the skeleton and the form and function of the animals, and to serve as a foundation for the intelligent study of animal diseases and ailments. Mr. McNutt.

Elective. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

204–c. Animal Diseases. A study of some of the more common economic infectious and non-infectious diseases of farm animals, their prevention and their treatment. Mr. McNutt.

Elective. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

205–c. Animal Breeding. A study of the principles and practices of animal breeding. Practice is given in tracing pedigrees. Mr. McNutt.

Elective second year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

BOTANY

201–b. Elements of Botany. In this subject the student is given a succinct account of the form and structure of plants, and of how plants grow and feed. Mr. Dunn.

Required first year. Lec. and rec., 1 hr.; lab., 5 hrs.; prep., 1 hr.; 7 units.

202–c. Fungous Diseases of Plants. The principal fungous diseases, their cure and their prevention. Mr. Dunn.

Required first year. Lec. and rec., 1 hr.; lab., 2½ hrs.; prep., 1 hr.; 4½ units.

AGRICULTURAL CHEMISTRY

201–b. Agricultural Chemistry. A study of the elementary principles of chemistry, with special emphasis upon the elements of importance in agriculture. Mr. Phillips and Mr. Frear.

Required first year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 8 units.

202–c. Agricultural Chemistry. Elements of the chemistry of plants, soils, fertilizers, manure, lime, foods, animal physiology, spray materials and dairy products. Mr. Phillips and Mr. Frear.

Prerequisite: Agricultural Chemistry 201–a. Required first year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 8 units.

DAIRY HUSBANDRY

201–b. Farm Dairying. A general survey of the field of dairy husbandry. Such topics as the use of the Babcock test, farm separators, farm butter making, and marketing dairy products, are included. Mr. DePew.

Required first year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

202–c. Milk Production. The field of dairy husbandry in its relation to the producer. Feeding dairy animals; systems of herd feeding; silage and soiling; raising dairy animals; dairy herd development; dairy barns; advanced registry management; fitting dairy animals for show; dairy cattle judging. Mr. Fuller.

Elective second year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

203–c. Butter Making. A study of the secretion, and of the chemical and physical properties of milk; pasteurization; cream ripening, starters, churning; organization and operation of factories. Mr. DePew.

Elective second year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

204–b. Market Milk. Food value of milk; producing, handling and distributing market and certified milk; dairy farm inspection; control of milk supply. Mr. DePew.

Elective second year. Lec. and rec., 2 hrs.; lab., 5 hrs.; prep., 3 hrs.; 10 units.

205–b. Ice Cream and Cheese Making. (1) Lectures and laboratory work covering the manufacture of the more important types of cheese. (2) The making, handling, and marketing of ice cream and ices. Mr. DePew.

Elective second year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

ENGLISH

201–b. 202–c. Grammar and Elementary Composition. Mr. Cortez.

Required first year. Lec. and rec., 3 hrs.; prep., 4½ hrs.; 7½ units.

ENTOMOLOGY

201–b. Principles of Economic Entomology. The relation of the structure and classification of insects to methods of insect control. The preparation and application of insecticides. Spray machinery and appliances. Mr. O'Kane and Mr. Lowry.

Required second year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 3 hrs.; 7½ units.

FORESTRY

201–c. Farm Forestry. The care and management of farm woodlots; log and board scaling; logging and milling; estimating standing timber; protection from fire, insects, fungi, etc.; thinning immature stands; seeding and planting; natural regeneration. Mr. Woodward.

Required second year. Lec. and rec., 2 hrs.; lab., 2 hrs.; prep., 4 hrs.; 8 units.

HORTICULTURE

201–c. Fruit Growing. This subject embraces a study of commercial orcharding. Each fruit is studied with reference to planting, cultivating, pruning, fertilizing, picking, packing, storing and marketing. Mr. Potter.

Required first year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 2½ hrs.; 7 units.

202–c. Vegetable Gardening. A study of the commercial methods of vegetable growing. Special attention is given to the home garden. Mr. Hepler.

Elective second year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 2½ hrs.; 7 units.

203–b. Greenhouse Management. Combined lecture, demonstration and laboratory work in greenhouse management. Mr. Hepler.

Elective second year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 2½ hrs.; 7 units.

204–b. Home Decoration. A study of ornamental trees, shrubs and flowers; their culture, proper arrangement and decorative value, with special reference to the home surroundings. Mr. Hepler.

Elective second year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 3½ hrs.; 8 units.

205–b. Orchard Problems. This subject deals with the principal problems of farm and commercial orchard management. It is designed to show the application of the principles of fruit growing to practical conditions. Mr. Latimer.

Elective second year. Lec. and rec., 3 hrs.; prep., 5 hrs.; 8 units.

206–c. Small Fruits and Plant Propagation. A study of the propagation of horticultural plants and the culture and marketing of miscel-

laneous small fruits including the strawberry, cranberry, raspberry, blackberry, grape, and blueberry. This subject will also include a brief study of the principles of plant breeding. Mr. Latimer.

Elective second year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 2½ hrs.; 7 units.

207–b, 208–c. Advanced Horticulture. Special work in any phase of horticulture may be taken by arrangement with the head of the department. Mr. Potter and staff.

Prerequisites will depend upon the work taken. Elective second year. Hours to be arranged. Units to be arranged.

209–c. Beekeeping. This subject deals with the life history and habits of honey bees with special reference to apiary conditions. The laboratory work consists of practice in handling bees, construction and use of hives, hive fittings, and winter cases. Mr. Hepler.

Elective second year. Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 2½ hrs.; 7 units.

POULTRY

201–b, 202–c. Farm Poultry. A general subject designed especially for two-year students who are going back to the farm to take up practical poultry work. The subject will include work in managing, feeding, housing, breeding, incubation, brooding, and marketing, with laboratory work as practical as can be made. Mr. Richardson and Mr. Stuart.

Lec. and rec., 2 hrs.; lab., 2½ hrs.; prep., 2½ hrs.; 7 units.

203–b. Poultry Diseases. A subject treating of the anatomy of fowl, with clinics showing various common poultry diseases, and lectures giving methods of prevention and cure. Dr. Gildow.

Prerequisite: 201–a. Lec. and rec., 3 hrs.; lab., 2½ hrs.; prep., 4½ hrs.; 10 units.

204–c. Poultry Feeds and Feeding. A subject dealing with the principles of feeding, and the comparative value of various grains and feeds used in poultry feeding. Each student is obliged to do practical work in feeding and caring for a flock of 500 hens. Mr. Richardson.

Prerequisite: 201–a. Lec. and rec., 3 hrs.; lab., 5 hrs.; prep., 3 hrs.; 11 units.

MECHANICAL ENGINEERING

201–b. Agricultural Drawing. A brief study of the use of drafting instruments, followed by sketches and working drawings of wood and concrete construction as applied to farm mechanics and farm buildings. Mr. Stolworthy.

Lab., 5 hrs.; 5 units.

202–c. Forging. This is a study in the forging of iron and steel, and is designed to teach the operation of drawing, upsetting welding, twisting, splitting and punching. A study is made of the construction, care, and management of the forge, and instruction is given in tempering, case hardening, and annealing. Mr. O'Connell.

Lab., 2½ hrs.; 2½ units.

203–c. Wood Shop. Farm carpentry and joinery. Care and use of tools, making of implements for the farm, and care of lumber on the farm. Mr. Batchelder.

Lab., 5 hrs.; 5 units.

ZOÖLOGY

201–c. Human Anatomy and Physiology. A general survey of the structure and physiology of the human body. The most important principles of hygiene will be pointed out from time to time as various systems are discussed. Mr. Barton.

Required first year. Lec. and rec., 3 hrs.; prep., 4 hrs.; 7 units.

NEW HAMPSHIRE AGRICULTURAL EXPERIMENT STATION

JOHN C. KENDALL, *Director*

The New Hampshire Agricultural Experiment Station, a branch o the University, was established by the state, August 4, 1887, unde an act of Congress of March 2 of that year. This and subsequent act appropriated funds for conducting research work on agricultural prob lems in New Hampshire and throughout the nation.

The investigations conducted by the Experiment Station vary ac cording to their nature, some lasting through one season only and som covering a period of years. The projects of the Station include funda mental investigations to determine the underlying principles of agri cultural science and others of more practical application.

Appropriations from the state enable the Experiment Station to carry on a much more extensive state service work on agricultural problems Advantage of the opportunities offered by the Experiment Station ha been taken by the state in connection with the tests of seeds, fertilizers and feeding-stuffs; and samples of these collected by the State Depart ment of Agriculture are tested at the Station laboratories each year, ir accordance with legislative enactments.

Information relating to agricultural practices is supplied by the various departments and entails a large volume of correspondence ir answer to individual inquiries. Samples of soil are tested; plants and insects are identified; blood samples from hens are tested, and *post mortem* examinations of hens made.

The library of the Experiment Station, which is open daily to students and visitors, contains complete files of all bulletins issued by the experiment stations in other states, all United States Department of Agriculture bulletins, and many other reports, bulletins and records as well as books of agricultural value.

Publications of the Station comprise 231 bulletins of the regular series and 26 circulars, 34 technical bulletins, 23 scientific contributions and 4 school bulletins. The publications cover a wide range of subjects and contain the information gathered by the experts of the Station while working on the various projects. The bulletins are issued at regular intervals and notices of publications are sent to all residents of New Hampshire requesting them. Back numbers will be sent as long as the supply lasts. Lists of available publications and further information concerning the work of the Experiment Station will be supplied upon request.

UNIVERSITY OF NEW HAMPSHIRE EXTENSION SERVICE

(AGRICULTURE AND HOME ECONOMICS)

JOHN C. KENDALL, *Director*

What the colleges and universities are to those young men and women who come within their walls, the extension service is, only to a lesser degree, to the thousands who are beyond the reach of the classroom.

The teachings of the college and the findings of the Experiment Station and the United States Department of Agriculture are now being carried to farms and homes throughout the state by a regularly established force of field workers. A coöperative arrangement was first made possible between the United States Department of Agriculture, the State College and the counties of the state by the Smith-Lever Act of Congress, which appropriated funds to be offset by each state. This arrangement was extended by the Legislature of 1925, which passed a special extension appropriation for county work, establishing a financial system of one part federal, two parts state, and three parts county funds. There are now ten agricultural agents in the ten counties, nine home demonstration agents, and nine boys' and girls' club agents. Farm management, dairying, forestry, soils and crops, poultry, horticulture and nutrition demonstrations are also conducted with specialists in charge.

The extension service works largely through a group of rural people known as the Farm Bureau, one of which has been formed in each county. The Farm Bureau is composed of farmers, and so far as possible the extension work is conducted along lines mutually agreed upon.

With its corps of forty-one men and women the extension service relieves the college teaching staff and station workers from much of the miscellaneous extension work which they, of necessity, have been compelled to carry on in the past. It also carries the work to a much larger public and carries it in a much more intimate way than it would otherwise be possible to do. It is very difficult to place any just estimate upon the value of such service to a state or to the nation. It is recognized today as never before that upon the prosperity of the farmer depends quite largely the general prosperity of all classes of people.

The publications of the extension service comprise 142 press bulletins, 74 circulars and 32 bulletins. Notices of new bulletins are sent to a

mailing list, which is maintained in coöperation with the Experiment Station. Bulletins are sent free to all who request them.

Reading courses in fifteen subjects in agriculture and home economics, prepared by members of the resident college staff, are offered during the winter months. These include papers on Soils and Fertilizers, Orchard Management, Dairy Farming, Poultry Husbandry, The Farm Woodlot, Vegetable Gardening, Bee Keeping, Farm Management, Household Management and others.

DEGREES AND HONORS, 1927

At the Fifty-seventh Annual Commencement Exercises, Monday, June 20, 1927, at which Charles Reynolds Brown, D.D., LL.D., of New Haven, Conn., made the Commencement address, Dr. James A. Tufts, Secretary, Board of Trustees, conferred the following degrees and certificates:

HONORARY DEGREES (4)

DOCTOR OF LAWS

Theodore Lawrence Davis, M.B.A., S.C.D., Boston, Mass.
Edith Souther Tufts, M.A., Wellesley, Mass.

DOCTOR OF SCIENCE

Charles James, F.I.C., Durham

MASTER OF ARTS

Adrian Osborn Morse, A.B., Durham

PROFESSIONAL DEGREES (2)

ELECTRICAL ENGINEER

George Wesley Watson, B.S., University of New Hampshire, 1920, New Bedford, Mass.

Thesis: "Some Engineering Aspects of an Outside Telephone Plant."

MECHANICAL ENGINEER

Willard Eugene Nudd, B.S., University of New Hampshire, 1919, Cleveland, Ohio

Thesis: "A Study of the Teaching of Lettering to Engineering Students and the Design of a Lettering Pamphlet for Its Presentation."

ADVANCED DEGREES (12)

MASTER OF SCIENCE

John William Allquist, B.S., University of New Hampshire, 1925, Concord

Subjects: Chemistry and Physics.
Thesis: "An Attempt to Separate Hafnium and Zirconium."

William Edward Coughlin, B.S., University of New Hampshire, 1925, Concord

Subjects: Chemistry, Physics and Education.
Thesis: "Studies on the Separation of Beryllium from Aluminum."

Irving William Hersey, B.S., University of New Hampshire, 1925, Somersworth

Subjects: Architecture and Economics.
Thesis: "Auditorium for the University of New Hampshire."

William Cleon Krook, B.S., University of New Hampshire, 1914, West Hartford, Conn.

Subjects: Education and Mechanical Engineering.

Andrew William Petre, B.S., Penn. State, 1925, Pittsburg, Pa.

Subjects: Agricultural and Biological Chemistry and Chemistry.
Thesis: "A Study of the Chemical Changes in Carrots During Storage."

Albert Elliott Pillsbury, B.S., University of New Hampshire, 1925, Rutland, Mass.

Subjects: Entomology and Zoölogy.
Thesis: "The History and Control of the White Pine Weevil in New Hampshire."

Argyle Burrell Proper, B.S., University of New Hampshire, 1926, Melvin Mills

Subjects: Entomology and Zoölogy.
Thesis: "The Biological Effects of Certain Ovicides."

John Patrick Sullivan, B.S., University of New Hampshire, 1926, Manchester

Subjects: Economics, Education and Psychology.
Thesis: "Taxation in New Hampshire Since 1890."

MASTER OF ARTS

Alexander Patrick Bogle, B.A., University of New Hampshire, 1926, Derry

Subjects: Education and Political Science.
Thesis: "Vocational Guidance in Secondary Schools."

Clarence Horace Hewitt, B.Th., Aurora College, 1926, Dover

Subjects: Philosophy and Psychology, Education and English.
Thesis: "Some Chapters in the Genetic Psychology of Fear and Anger."

Philip Mason Marston, B.A., University of New Hampshire, 1924, Ashland

Subjects: History, Education and Psychology.
Thesis: "Meredith and Laconia to 1855."

Vere Eric Pearlstein, B.A., University of New Hampshire, 1926, Colebrook

Subjects: English and History.
Thesis: "The Correlation of History, Literature and Language in the Teaching of High School English."

DEGREES CONFERRED (216)

BACHELOR OF SCIENCE

In Agriculture (20)

Nicholas Filip Colovos ..... Durham
Charles Atkinson Cook ..... Newburyport, Mass.
Clayton Russell Cross ..... Derry
Harry Melville Curtis, Jr. ..... Swampscott, Mass.
Elbert Raymond Farrar ..... Hillsboro
Charles Adna George ..... Contoocook
John Gardner Goodrich ..... Exeter
Stephen Emmons Hodges ..... Newton, Mass.
Ralph Richards Jenkins ..... Durham
Ralph Batchelder Littlefield ..... Salem Depot
Donald Kenneth McLeod ..... Peterboro
Roger William Patten ..... Framingham, Mass.
Theodore Jacob Perkins ..... Meredith
Charles Henry Russell ..... Winthrop, Mass.
Frank Stott Schlenker ..... Haverhill, Mass.
Frederick Christopher Smalley ..... Dover
Wilbur Emons Thompson ..... Wilmot Flat
Gilbert Leslie Varney ..... Plymouth
Herbert Andrew Willard ..... Temple
George Edward Willgeroth ..... Hillsboro

In Liberal Arts (70)

College of Liberal Arts

Stella Marion Adams.....Hebron
Marguerite Lillian Blodget.....Durham
John Armand Clinton Bowles.....Claremont
Dorothy Brooks.....Portsmouth
Edgar Brown Bruce.....Milton
Charles Elroy Chase.....Farmington
Walter Albert Chipman, Jr.....Manchester
Helen Jewell Coe.....Newfields
Harold Parker Cotton.....Ashland
Ralph Briry Craig.....Pittsfield, Me.
Frank Andrew Curran, Jr.....Nashua
Edward Raymond Davis.....Norwell, Mass.
John Woodbury Day.....Beverly Farms, Mass.
Morris Welton Dimock.....Portsmouth
Medora Viola Eastwood.....Plymouth, Mass.
Lawrence Erickson.....Durham
Annie Gertrude Farr.....North Weare
Marjorie Harriet Gale.....Dover
Carroll Chamberlin Gerrish.....Berlin
Grace Elizabeth Gerrish.....Dover
MacLean John Gill.....Woodsville
Pearl Editha Hartshorn.....Mont Vernon
Norman Joseph Henault.....Norwich, Conn.
Edward Nathaniel Henderson.....Winchester
Stanley Radcliffe Hixon.....Worcester, Mass.
Water Scott Hopkins, Jr.....Reading, Mass.
Helen Humphrey.....Ipswich, Mass.
Grovenor Ariel Huntoon.....Contoocook
Nicholas Philip Ide.....Durham
G. Bernhard Kalijarvi.....Durham
George Oscar Kelsea.....Colebrook
James Roy KillKelly.....Wilton
Stanley Lewis King.....Keene
Prescott Barber Kinsman.....Somersworth
Merritt Raymond Langdell.....Manchester
Helen Lowenberger.....Norwich, Conn.
Burdett William Lyman.....North Hinsdale

Irene Elizabeth McCarthy.....Manchester
Francis Frederick McGee.....Cleveland, Ohio
John Lawrence McKinley.....Leonia, N. J.
Margaret Shaw Marnoch.....Dover
Lawrence Everett Mason.....Marlboro
Clare Patricia Moylan.....Milton, Mass.
Charles Frederick Nagel.....Beverly, Mass.
George Henry Nash.....Nashua
Robert Jelio Nicora.....Barre, Vt.
George Elliott Page.....Exeter
Catherine Eliza Paige.....North Weare
Edna May Paige.....North Weare
Jesse Lee Pellerin.....Enfield
Alice May Perkins.....Dover
Thomas Arnold Pickford.....Berlin
Harold Augustine Pineo.....Dover
Bernice Lillian Poor.....Atkinson
Sherburn Moore Potts.....Durham
William Morris Prince.....New Boston
Roger Albee Reed.....Woodsville
Margaret Esther Rhodes.....Brookline, Mass.
William Brice Roberts.....Mt. Vernon, N. Y.
Frederick LeBaron Robinson.....Brookline, Mass.
Caryl Edith Scribner.....Contoocook
Robert Verrill Sentner.....Dover
Emily Blanchard Simmons.....New Ipswich
Charlotte Marie Smith.....Dover
George Herbert Stackpole, Jr.....Exeter
Benjamin Shapleigh Symonds.....Portland, Me.
Melville Lincoln Taylor.....Seabrook
Abby Janette Thomas.....Durham
Ruth L. Webber.....Springvale, Me.
Russell Paul Whyte.....Lancaster

In Technology (47)

College of Technology

Furio Alexander Abbiati.....Barre, Vt.
Norman Jonathan Berry.....Rochester
Leopold Bernard Blum.....Salisbury, Mass.

Charles Mitchel Brown.....East Lynn, Mass.
Lloyd Harris Brydon.....Portland, Me.
Robert Francis Burnham.....Durham
Donald Cameron Calderwood.....Nashua
John Russell Callahan.....Wakefield, Mass.
Raymond Ellis Campbell.....Woodsville
John Thurston Carpenter.....Nashua
Clyde Cedric Connor.....Henniker
Ralph Clement Dustin.....Penacook
Wilford Albion French.....Sanbornville
Lore Alford Frost.....Windham
Leslie Stoddard Hubbard.....Walpole
Henry Hunt.....Sanford, Me.
Frank Wentworth Hussey.....Rochester
Barney George Johnson.....Berlin
Harlan Carl Jordan.....Berlin
Steven Asa Lewis.....Winchester
Richard Theodore Lord.....North Berwick, Me.
John Joseph McDonald.....Dover
Horace Truman McRae.....Springfield, Mass.
Robert Owen Maloney.....Meredith
Edward Gibson Miller.....Woodsville
Frank Bailey Moody.....Dover
Edward Mansfield Munroe.....Peabody, Mass.
Robert Thayer Phelps.....Durham
Earle Dexter Philbrick.....Berlin
Samuel Woodbury Roberts.....Wakefield
Clement James Rodden.....Dover
Robert Edmond Sharples.....Newmarket
Maurice Basil Smith.....North Hampton
Clarendon Lester Southmayd.....Franklin
Charles Jeremiah Spillane.....Newmarket
Fred Byron Stone.....Dover
Thomas Capron Tappan.....Derry
Albert Joseph Tatarcuk.....Nashua
Walter Percival Thurber.....Attleboro, Mass.
Edwin Bryant Vatter.....Salem, Mass.
Frederick Waite.....Allston, Mass.
Rudolph Huse Wakefield.....Plymouth
Todd Brice Wallace.....Newton Highlands, Mass.

William Prescott White.....Rye Beach
Clifton Raymond Wilcox.....Concord
Chester Elmer Williams.....Newcastle
Linwood Arlon Wright.....Sanford, Me.

BACHELOR OF ARTS (79)

College of Liberal Arts

Pauline Mae Andrews.....Somersworth
Eleanor Elizabeth Atwood.....Swampscott, Mass.
Lester Charles Ayers.....Beverly, Mass.
Howard Bradford Baldwin.....Wilton
Hazel Maud Beard.....Keene
Robert Archibald Beattie.....Woodsville
William Francis Beeler.....Durham
James Alexander Boyd.....Dedham, Mass.
Helen Brady.....Union City, N. J.
Dorothy Follansby Burpee.....Exeter
Armando Ralph Carli.....Malden, Mass.
Catherine Mary Cassily.....Dover
Frank Kenneth Clarke.....Canaan
Charles David Colman, Jr.....Rochester
Ruth Audrey Cooper.....Lawrence, Mass.
Carl Calvin Derby.....Peterboro
Irving Tilton Dicey.....East Derry
Carolyn Ella Dodge.....New Boston
Mary Agnes Dolan.....Nashua
Hazel Winnifred Eaton.....Portsmouth
Frances Faith Fairchild.....Durham
Dorothy Flynn.....Berlin
Catherine Elizabeth Grady.....Winthrop, Mass.
Florence Ellen Hall.....Keene
Raymond Lee Hall.....Dover
Lucille Clarke Hodge.....Concord
Esther Holt.....Suncook
Cecilia Marie Hourihane.....Dover
Ellen Wren Hourihane.....Somersworth
Anna Calvert Hunt.....Nashua
Laurence Vorbeau Jensen.....Ashburnham, Mass.
Helen Gwendolyn Jones.....Concord
Alice Julia Keenan.....Penacook

Ethel Etta Kelley ..... Manchester
Mary Josephine Kennedy ..... Somersworth
George Harland Keough ..... Gorham
Roy George Kimball ..... Enfield
Emma Lena Kinsman ..... Somersworth
Joseph Charles Kirkbride ..... Durham
Annice Elizabeth Langford ..... East Candia
Theda Louise Learned ..... Woodsville
James Pearson Lightbown ..... Fall River, Mass.
Marguerite Lovering ..... Farmington
John Charles McDonough ..... Manchester
Thomas Henry McGrail ..... Dover
Everett Marden McIntire ..... Lancaster
Arme Cunningham Martin ..... Hartland, Vt.
Annette Menard ..... Manchester
Chester Ernest Mooney ..... West Canaan
Winthrop Perkins Moore ..... Sharon, Mass.
Nathalie Marion Moulton ..... Portsmouth
Pauline Letitia Mountain ..... Berlin
John Patrick Neville ..... Portsmouth
Edward Leo O'Connor ..... Peabody, Mass.
Otho Francis O'Leary ..... Newfields
Alice Louise Osgood ..... Pittsfield
Harry Oliver Page ..... Lynn, Mass.
Walter Irving Piper ..... Concord
Thomas Michael Pitts ..... Concord
Walter Trueman Pulsifer ..... Dover
Pearl Camille Rideout ..... Nashua
Mary Florence Rolfe ..... Penacook
Frank Ellwood Root ..... Claremont
Bernice Lydia Rowe ..... Brentwood
Victor Paul Sanborn ..... Topsfield, Mass.
Rachel Elizabeth Shepard ..... West Epping
Lloyd Atherton Simpson ..... Concord
Evelyn Hope Smith ..... Tilton
Martin Fayette Snow ..... Manchester
Helen Lois Stevens ..... Nashua
Elizabeth Fales Tibbetts ..... West Somerville, Mass.
Louise Tobey ..... Wolfeboro
Albert David VanAllen ..... Woodstock

Edward Lyman Warren, Jr. ..... Laconia
Irene Martin Wentworth ..... Somersworth
Elizabeth Alice White ..... Rye Beach
Manly A. Wilmot ..... Enfield
Katherine Alma Wood ..... Randolph
Margaret Cushman Woodman ..... Wakefield, Mass.

CERTIFICATES

Two-Year Students in Agriculture (11)

Amedee Anthony Bernier ..... East Jaffery
Clarence Henry Colburn ..... Alton
Howard Everett Davis ..... Pittsfield
Wayne Rodney Dixon ..... Milton
Bernard Gagne ..... Rochester
Elmer Wilfred Lang ..... Northwood
Paul Hooper Nelson ..... Mill Village
Stuart Goodwin Potter ..... East Concord
Irving Hirst Scammon ..... Stratham
Virgil Foss Scribner ..... Center Strafford
Herbert Lawrence Taylor ..... North Stratford

PRIZES AWARDED, 1927

BAILEY PRIZE

Robert Thayer Phelps, Durham

BARTLETT PRIZE

Malcolm Benjamin Sargent, New London

CHASE-DAVIS MEMORIAL MEDALS

Gold Medal

Oscar George Kelsea, Colebrook

Silver Medal

Ralph Batchelder Littlefield, Salem Depot

KATHERINE DEMERITT MEMORIAL PRIZE

Anna Lester Philbrook, Meredith

DIETTRICH MEMORIAL CUP

Katherine Patricia Flanagan, Portsmouth

ERSKINE MASON MEMORIAL PRIZE

Clifton Raymond Wilcox, Concord

HOOD ALL-ROUND ACHIEVEMENT PRIZE

John Patrick Neville, Portsmouth

HOOD DAIRY CATTLE JUDGING PRIZES

First—Edson Farnum Eastman, Concord
Second—Paul Wesley Hobbs, North Hampton
Third—Paul Parker Bickford, Chocorua

UNIVERSITY OF NEW HAMPSHIRE MILITARY HONOR MEDAL

Oscar George Kelsea, Colebrook

First Honorable Mention—Frederick L. Robinson, Brookline, Mass.
Second Honorable Mention—Paul Shattuck Johnson, Durham

DONALD WALING MEMORIAL PRIZE

Elizabeth Fales Tibbetts, West Somerville, Mass.

PHI MU MEDAL

Frances Faith Fairchild, Durham

PRIZES AWARDED

PHI SIGMA PRIZE

Dorothy Follansby Burpee, Exeter

CLASS OF 1899 PRIZE

MacLean John Gill, Woodsville

EDWARD THOMPSON FAIRCHILD PRIZES

Acting—Melville Lincoln Taylor, Seabrook
Play Production—Charles Elroy Chase, Farmington

PSI LAMBDA SCHOLARSHIP CUP

Caryl Edith Scribner, Contoocook

INTERCOLLEGIATE WRITING CONTEST

Second Prize Short Story—Helen Brady, Union City, N. J.
Second Prize Poetry—Ellen Josephine Farley, Adams, Mass.

DAVIS CATTLE JUDGING PRIZES

(For Two-Year Students)

First—Stuart G. Potter, East Concord
Second—Irving H. Scammon, Stratham
Third—Bernard Gagne, Rochester

INTER-FRATERNITY SCHOLARSHIP CUPS

For Women—Alpha Xi Delta
For Men—Theta Upsilon Omega

STUDENTS, 1927–1928

Abbreviations Designating Courses

Agr. Ch.—Agricultural Chemistry
Arch.—Architecture
A. Ch.—Arts Chemical
A. Cn.—Architectural Construction
A. G.—Arts General
Agr.—General Agriculture
Agr. Tr.—Agriculture, Teacher Training
A. H.—Animal Husbandry
Bus. Fund.—Business Fundamentals
C. E.—Civil Engineering
Ch. E.—Chemical Engineering
D. H.—Dairy Husbandry
Ed. Tr.—Education, Teacher Training
Educ.—Professional Education
E. E.—Electrical Engineering
Engr.—Engineering
For.—Forestry
H. E. D.—Home Economics, Dietitian
H. E. I.—Home Economics. Institutional
H. E. Tr.—Home Economics, Teacher Training
Hort.—Horticulture
I. E.—Industrial Engineering
I. Tr.—Industrial, Teacher Training
M. E.—Mechanical Engineering
P. H.—Poultry Husbandry
Phys. Ed.—Professional Physical Education for Women
Pre-Law—Pre-Law
Pre-Med.—Pre-Medical

GRADUATE STUDENTS (32)

Name	Course	P. O. Address
John Vose Adams, B.S.	*Major Physics*	*Durham*
New Hampshire, 1924	*Minors Chem. and E. E.*	
Robert Vernon Beals, A.B.	*Major Education*	*Manchester*
Harvard, 1927	*Minor History*	

Name	Course	P. O. Address
Russell Bissey, B.S.	*Major Botany*	*Durham*
Colorado Agric. Coll., 1927	*Minor Agri. Chemistry*	
James Alexander Boyd, A.B.	*Major Education*	*Dedham, Mass.*
New Hampshire, 1927	*Minor Political Science*	
Walter Albert Chipman, B.S.	*Major Zoölogy*	*Manchester*
New Hampshire, 1927	*Minor Chemistry*	
Nicholas Filip Colovos, B.S.	*Major Agri. Chemistry*	*Durham*
New Hampshire, 1927	*Minor Chem. and Botany*	
Samuel Cutler, B.S.	*Major Education*	*Springfield, Mass.*
Mass. Agric. College, 1927		
Heber F. DePew, B.S.		*Durham*
Purdue University, 1917		
Roswell Hoyt Evans, B.S.	*Major Chemistry*	*Wentworth*
New Hampshire, 1926	*Minor Educ. and Econ.*	
Donald Elisha Frear, B.S.	*Major Agri. Chemistry*	*Tunkhannock, Pa.*
Penn. State College, 1926	*Minor Chemistry*	
Elsie Kate Fuller, B.S.	*Major Psychology*	*Durham*
Iowa State College, 1912	*Minor Sociology*	
John McElroy Fuller, B.S.	*Major Dairy Husbandry*	*Durham*
Iowa State College, 1911	*Minor Economics*	
Francis Howard Geremonty, B.S.	*Major Political Science*	*Salem*
New Hampshire, 1925	*Minor History*	
Leon Conrad Glover, B.S.	*Major Entomology*	*Brookline*
New Hampshire, 1925	*Minor Zoölogy*	
Sadie Marion Griffiths, A.B.	*Major Zoölogy*	*Durham*
New Hampshire, 1922	*Minor Sociology*	
Elton Thorsander Gustafson, A.B.	*Major Philosophy*	*Manchester*
New Hampshire, 1926	*Minor Sociology*	
Ralph Richards Jenkins, B.S.	*Major Botany*	*Durham*
New Hampshire, 1927		
Doris Gallup Lowry, B.S.	*Major English*	*Durham*
Simmons, 1923		
Leo Henry Maynard, B.S.	*Major Mathematics*	*Nashua*
New Hampshire, 1926	*Minor Elec. Eng. Theory*	

Name	Course	P. O. Address
Theodore Ralph Meyers, B.S. Ohio State University, 1926	*Major Zoölogy*	*Cincinnati, Ohio*
Charles Walter Pattee, A.B. New Hampshire, 1926	*Major History* *Minor English*	*Durham*
Edwin Rasmussen, B.S. Wisconsin, 1927	*Major Horticulture* *Minor Botany*	*Okanogan, Wash.*
Sue Taylor Rinear, A.B. Wisconsin, 1924	*Major Sociology* *Minor Psychology*	*Durham*
Frank Stott Schlenker, B.S. New Hampshire, 1927	*Major Agri. Chemistry* *Minor Bio. Chemistry*	*Haverhill, Mass.*
Dorothy Tuck Smith, B.S. New Hampshire, 1926	*Major Zoölogy* *Minor Chemistry*	*Hudson*
Charlotte Marie Smith, B.S. New Hampshire, 1927	*Major Zoölogy*	*Dover*
Lowell Ray Tucker, B.S. Illinois, 1926	*Major Horticulture* *Minor Agri. Chemistry*	*Urbana, Ill.*
Blanche Walker Wellman, A.B. Colby, 1898	*Major French* *Minor Education*	*Durham*
William Prescott White, B.S. New Hampshire, 1927	*Major Chemistry* *Minor Phys. Chemistry*	*Rye Beach*
Joseph Bassett Williams, A.B. New Hampshire, 1926	*Major History* *Minor Education*	*Exeter*
Rebecca Mary Wright, A.B. Boston University	*Major Education* *Minor English*	*Rochester*
William Yale, Ph.B. Yale, 1910	*Major Education* *Minor French and English*	*Newfields*

SENIORS (302)

Name	Course	P. O. Address
Abbot, Helen	*A. G.*	*Wilton*
Abbott, Harold Elliott	*Ch. E.*	*Lakeport*
Abrahamson, Herman Oscar	*Bus. Fund.*	*Bergenfield, N. J.*
Africa, Isabel	*H. E. Tr.*	*Manchester*
Ahern, Daniel Keleher	*A. G.*	*Charlestown*
Allyn, Marjorie Elizabeth	*H. E.*	*Montreal West, P. Q.*
Anglin, John Ignatius	*A. G.*	*Durham*
Appleton, Scott Severance	*E. E.*	*Milford*

Name	Course	P. O. Address
Armitage, William O.	*Arch.*	*Sanford, Maine*
Atkins, Reginald French	*A. G.*	*Concord*
Auerbach, Eugene Kimball	*A. G.*	*Arlington, Mass.*
Avery, Carroll Wood	*M. E.*	*Wolfeboro*
Baldi, Atilia Mary	*A. G.*	*Laconia*
Balch, Grant Pushee	*E. E.*	*Lyme*
Baldwin, Howard Bradford	*A. G.*	*Wilton*
Barron, Catherine Frances	*A. G.*	*Newfields*
Barton, Philip Shaw	*A. H.*	*Durham*
Batchelder, Edna Gertrude	*A. G.*	*Portsmouth*
Batchelder, Helen Agnes	*H. E.*	*Durham*
Batchelder, Ray Merton	*A. H.*	*Durham*
Bean, Willard Frederick	*M. E.*	*Errol*
Beede, Frank Ellsworth	*E. E.*	*Fremont*
Beggs, Martin Francis	*A. G.*	*Concord*
Bickford, Paul Parker	*Agr.*	*Chocorua*
Birmingham, Harold Francis	*A. G.*	*Haverhill, Mass.*
Bissonett, Roland Lester	*A. G.*	*Claremont*
Blaisdell, Margaret Ester	*A. G.*	*Dover*
Blodgett, Grace Burnham	*A. G.*	*Henniker*
Bloomfield, Harvey	*A. G.*	*Derry*
Boodey, Leon Eli	*E. E.*	*East Barrington*
Bradley, Charles Stuart	*Bus. Fund.*	*Goffstown*
Bridge, George Samuel	*A. G.*	*Portland, Maine*
Brooks, Lester Stewart	*A. G.*	*Dorchester, Mass.*
Brown, Margaret Frances	*A. G.*	*Exeter*
Bryant, William, Jr.	*Ch. E.*	*Manchester*
Burdett, Miriam Lois	*A. G.*	*Leominster, Mass.*
Burke, William Michael	*A. G.*	*Barre, Vt.*
Burnham, Alice Maude	*A. G.*	*Henniker*
Burpee, Eldora Haines	*A. G.*	*Exeter*
Burpee, Willena Florence	*A. G.*	*Newport*
Carl, Martha Grace	*A. G.*	*Schenectady, N. Y.*
Carpenter, John Thurston	*Arch.*	*Nashua*
Carpenter, Marion Heath	*A. G.*	*Manchester*
Cash, Thomas Philip	*A. G.*	*Dover*
Castle, Gladys May	*A. G.*	*Laconia*
Caswell, Maurice Harold	*M. E.*	*Barnstead*
Chandler, Roland Francis	*Arch.*	*Waltham, Mass.*

Name	Course	P. O. Address
Colburn, Eunice	*A. G.*	*Hillsboro*
Collins, Ethel Mary	*A. G.*	*Portsmouth*
Coleman, George Ephraim	*P. H.*	*Goffstown*
Conant, Malcolm Willey	*A. G.*	*Canterbury*
Coolidge, Irma	*H. E.*	*Bristol*
Cotton, Chester Arthur	*A. G.*	*Alton*
Cotton, Dana Meserve	*A. G.*	*Gorham, Maine*
Craig, Ralph Briry	*A. G.*	*Pittsfield, Maine*
Cromwell, Ellen Hughes	*A. G.*	*Woodsville*
Cuddire, Lawrence Joseph	*A. G.*	*Peabody, Mass.*
Currier, Alton Chauncey	*A. G.*	*Orford*
Custeau, Emile Michael	*A. G.*	*Rochester*
Daggett, Albert Frederick	*Ch. E.*	*Concord*
Daland, Richard William	*Bus. Fund.*	*Salem, Mass.*
Dane, William Arthur	*A. G.*	*Salem, Mass.*
Danforth, H. Raymond	*A. G.*	*Concord*
Daniels, Jessie Isabel	*A. G.*	*Henniker*
Davis, Dorothy Helen	*A. G.*	*Rochester*
Davis, Evalyn Mabel	*A. G.*	*Fremont*
Dearborn, Roland Balch	*Hort.*	*New Boston*
Dearington, Searls	*A. G.*	*Melrose, Mass.*
Del Bianco, Angelo Natale	*A. G.*	*Concord*
Dexter, Edward Augustus	*P. H.*	*Littleton*
Dillon, Gomer Stanley	*Bus. Fund.*	*Manchester*
Dionne, Isabelle Rita	*A. G.*	*Nashua*
Dixon, Paul J.	*Hort.*	*Milton*
Dodge, Charles Eben	*A. G.*	*Pittsfield*
Donovan, Margaret Elizabeth	*A. G.*	*Exeter*
Doucette, Marion Gertrude	*A. G.*	*North Walpole*
Drew, Frederick Wentworth	*E. E.*	*Dover*
Duffy, Peter Andrew	*A. G.*	*Dover*
Eadie, James	*M. E.*	*Manchester*
Eastman, Clifford Herman	*A. G.*	*Newport*
Eastman, Edson Farnum	*D. H.*	*Concord*
Eastman, Hazel Mae	*A. G.*	*Meriden*
Eastwood, Medora Viola	*H. E.*	*Plymouth, Mass.*
Elliott, Charles Ned	*A. G.*	*Contoocook*
Emery, Winston Frank	*For.*	*West Swanzey*
Engel, Louis Arnold	*Bus. Fund.*	*Concord*

Name	Course	P. O. Address
English, James Hugh	*A. G.*	*Manchester*
Esersky, Etta Rose	*A. G.*	*Claremont*
Evans, Walter Horace	*A. G.*	*Barnstead*
Ferguson, John Edwin	*A. G.*	*Goffstown*
Fields, Dorothy Amelia	*A. G.*	*Reed's Ferry*
Fifield, Mildred	*A. G.*	*Conway*
Fisk, Maynard Clark	*For.*	*Lancaster*
Fitch, Alice Lila	*H. E.*	*Claremont*
Flaherty, Edna Grace	*A. G.*	*Manchester*
Flanagan, Katherine Patricia	*A. G.*	*Portsmouth*
Flint, Margaret Merrill	*A. G.*	*Meredith*
Fogg, Bessie Lakin	*Bus. Fund.*	*Hancock*
Folsom, Russell Willard	*E. E.*	*Dover*
Foss, Alice Mildred	*H. E.*	*Suncock*
Foster, Alice Page	*A. G.*	*Plymouth*
Francoeur, Jeffrey Francis	*A. G.*	*Somersworth*
French, Alvin Watson	*Arch.*	*Salisbury, Mass.*
Garner, Robert Sherlock	*Pre-Med.*	*Methuen, Mass.*
Garvey, Leo Francis	*A. G.*	*Dover*
Gelpke, William Joseph	*M. E.*	*Manchester*
George, Avery Brewster	*Ch. E.*	*Haverhill, Mass.*
Geremonty, May Eckford	*A. G.*	*Salem*
Goodwin, Edwin Alonzo	*E. E.*	*Somersworth*
Goodwin, Marion Louise	*A. G.*	*West Lebanon, Maine*
Gove, Ira Newman	*E. E.*	*Concord*
Gove, Ruth Alice	*A. G.*	*Wentworth*
Greenough, William	*I. E.*	*Wakefield, Mass.*
Griffin, Kelsea	*A. G.*	*Manchester*
Guptill, George Herbert	*A. G.*	*Raymond*
Haines, Walter Blake	*Arch.*	*Winthrop, Mass.*
Haley, Harold Edward	*A. G.*	*Exeter*
Hallisey, Mildred Louise	*A. G.*	*Nashua*
Hammond, Ruth Wilson	*E. E. I.*	*Laconia*
Hanagan, John Joseph	*A. G.*	*Somersworth*
Hansen, Alf	*M. E.*	*Lynn, Mass.*
Hanson, Elizabeth Frances	*H. E.*	*Concord*
Hatch, Ervin Nerva	*I. E.*	*Intervale*
Hayden, Leslie Forrest	*Hort.*	*Newfields*
Hawkins, Hubert Wheeler	*A. G.*	*Keene*

Name	Course	P. O. Address
Hayes, Milton Ware	*Ch. E.*	*Milton*
Hebert, Alfred Anthony	*Pre-Med.*	*Franklin*
Hildreth, Malcolm Dee	*Arch.*	*Plymouth*
Hill, Margaret Evelyn	*A. G.*	*Franklin*
Hoagland, William Lloyd	*A. G.*	*Dedham, Mass.*
Hoffses, Barbara Sterling	*A. G.*	*Manchester*
Hoitt, Dorothy Emma	*A. G.*	*Manchester*
Hoitt, Samuel Waldo	*Agr.*	*Durham*
Holt, Clarence Dodge	*Ch. E.*	*New Boston*
Horn, Elizabeth Agnes	*H. E.*	*Laconia*
Hoyt, Raymond Albert	*A. G.*	*Plaistow*
Hunt, Henry	*Arch.*	*Sanford, Maine*
Hunt, Paul Merryman	*I. E.*	*Haverhill, Mass.*
Huntoon, Grovenor Ariel	*A. C.*	*Contoocook*
Hutchinson, Harold Curtis	*A. G.*	*Wilton*
Jack, Gerald Albion	*A. G.*	*Topsham, Maine*
Jackson, Lewis Leonard	*A. G.*	*Lebanon*
James, Clifford Edward	*A. G.*	*Malden, Mass.*
Jaquith, Lester Gibson	*I. E.*	*Clinton, Mass.*
Johnson, Elizabeth	*A. G.*	*Lakeport*
Johnson, Paul Shattuck	*A. G.*	*Durham*
Johnson, Stanley Pulsifer	*Hort.*	*Hampstead*
Joseph, James	*A. G.*	*North Haverhill*
Joslin, George Elias	*A. G.*	*Spofford*
Joy, Ruth Elizabeth	*H. E.*	*Somersworth*
Kelley, Pauline Joan	*A. G.*	*Newport*
Kelson, Oscar George	*A. G.*	*Colebrook*
Kenerson, Elsie Dean	*A. G.*	*Saugus, Mass.*
Kenison, Frederick Damon	*I. E.*	*North Conway*
Killeen, Elizabeth Catherine	*H. E. I.*	*North Walpole*
Kimball, Roy George	*A. G.*	*Enfield*
Krinsky, Marcia	*A. G.*	*Somersworth*
Lafond, Edward Francis	*E. E.*	*Somersworth*
Lamb, Lilliane Theresa	*A. G.*	*Portsmouth*
Landon, Lester L., Jr.	*E. E.*	*Hillsboro*
Lang, Mary Ellen	*A. G.*	*Somersworth*
Langer, Walter Clarence	*Bus. Fund.*	*Manchester*
Lawry, Henry Madusib	*E. E.*	*Dover*
Lee, Dana Huntley	*Agr.*	*Concord*

Name	Course	P. O. Address
Lee, James Maurice	*E. E.*	*Dover*
Lindahl, Clifford Oliver	*A. G.*	*Manchester*
Lindsay, Roger Manus	*For.*	*Woodsville*
Litchfield, Stephen, Jr.	*A. G.*	*Brunswick, Maine*
Lisio, Ralph Americo	*A. G.*	*Portsmouth*
Lord, George David	*A. G.*	*Milton*
Lord, Grace Lillian	*Phys. Ed.*	*Salem Depot*
Lough, Norbert Francis	*A. G.*	*Dover*
Lyford, Agnes Elsina	*A. G.*	*Epping*
Lyman, Burdette William	*A. G.*	*North Hinsdale*
McCrillis, Virginia Mary	*H. E.*	*Laconia*
McGee, Francis Frederick	*Pre-Med.*	*Cleveland, Ohio*
McMorrow, William Francis	*A. G.*	*Lawrence, Mass.*
MacLaren, Edward Wallace	*Bus. Fund.*	*Alstead*
Macphee, Donald Francis	*A. G.*	*Springfield, Mass.*
Mason, Lawrence Everett	*A. G.*	*Marlboro*
Matthew, Robert John	*A. G.*	*Lancaster*
Meloon, Charles Leighton	*For.*	*New Castle*
Merrill, Beulah	*A. G.*	*Wilkinsonville, Mass.*
Merrill, Robert Pillsbury	*P. H.*	*Northwood Narrows*
Milan, Ruth Annette	*A. G.*	*Nashua*
Mitchell, Frederick Barr	*I. E.*	*Manchester*
Monat, Urgel Alcid	*For.*	*Durham*
Moore, Howard Cross	*A. G.*	*Malden, Mass.*
Morreols, Charles Louis	*E. E.*	*Manchester*
Morris, Priscilla	*A. G.*	*Epping*
Morrison, Ralph Burnham	*A. G.*	*Laconia*
Morrison, Stanley William	*L. A.*	*Derry*
Munhall, Genieve Elizabeth	*H. E. D.*	*Antrim*
Murnane, Patrick John	*A. G.*	*Somersworth*
Murphy, Herbert Evans	*M. E.*	*Swampscott, Mass.*
Necker, Edward Arthur	*I. E.*	*Norwood, N. J.*
Nelson, William Pettee	*I. E.*	*Salt Lake City, Utah*
Nossiff, George Seavey	*A. G.*	*Dover*
O'Connor, Edward Leo	*A. G.*	*Peabody, Mass.*
O'Leary, Maurice John	*A. G.*	*Portsmouth*
Percival, Warren Edward	*For.*	*Gorham*
Perkins, Alice May	*A. G.*	*Dover*
Perry, Frank William	*A. G.*	*Newport*

Name	Course	P. O. Address
Philbrick, Earle Dexter	*Arch.*	*Berlin*
Philbrook, Anna Lester	*A. G.*	*Meredith*
Pickwick, George Bradley	*A. G.*	*Manchester*
Pollard, Marguerite Ruth	*A. G.*	*Newport*
Pray, Dorothy Allen	*A. G.*	*Somersworth*
Preble, Allan Curtis	*Bus. Fund.*	*Woburn, Mass.*
Prickett, Cavett Oliver	*Pre-Med.*	*Manchester*
Pritchard, Charles Gregory	*A. G.*	*Manchester*
Prood, John Myron	*I. E.*	*Durham*
Pulsifer, Walter Trueman	*A. G.*	*Dover*
Pushee, Ruth Margaret	*H. E.*	*Lyme*
Putnam, Edwin Herbert	*Hort.*	*South Lyndeboro*
Quint, Muriel Edna	*A. G.*	*Conway*
Ramsay, Walter Metcalf	*A. G.*	*Winthrop, Mass.*
Redden, Elizabeth Adelaide	*A. G.*	*Dover*
Reed, John Bowyer	*A. G.*	*Westmoreland*
Regali, Ralph Anthony	*Bus. Fund.*	*Everett, Mass.*
Reid, Helen Louise	*A. G.*	*Manchester*
Reid, Neil Gordon	*A. H.*	*Epson*
Reney, Doris Maude	*A. G.*	*Grantham*
Ricciardi, Salvatore Richard	*A. G.*	*Milford*
Ricker, Elisabeth	*A. G.*	*Laconia*
Roberts, Isabel Ashmun	*L. A.*	*New York City*
Robinson, Elsie Louise	*A. G.*	*Somersworth*
Robinson, William Evans	*Ch. E.*	*Newmarket*
Rogers, John Edward	*A. G.*	*Everett, Mass.*
Rollins, Gladys Louise	*A. G.*	*Pike*
Romani, Olympia	*A. G.*	*Milford*
Rose, Harry Broadbent	*E. E.*	*East Kingston*
Ross, Donald James	*Bus. Fund.*	*Nashua*
Russell, Charles Henry	*Agr.*	*Winthrop, Mass.*
St. Clair, Elgar Lincoln	*E. E.*	*Laconia*
St. Clair, Roger Couch	*I. E.*	*Portsmouth*
Sargent, Eben Rolfe	*For.*	*Penacook*
Sargent, Francis Albert	*Bus. Fund.*	*Lebanon*
Sargent, Harrison Erastus	*M. E.*	*Laconia*
Sargent, Malcolm Benjamin	*E. E.*	*New London*
Sawyer, Charles Murray	*A. G.*	*Concord*
Schurman, Charles Artis	*A. G.*	*Portsmouth*

Name	Course	P. O. Address
Scribner, Bernard Morrill	*Bus. Fund.*	*Franklin*
Sebra, Louis Joseph	*Arch.*	*Penacock*
Sheehan, John Francis	*A. G.*	*Portsmouth*
Simpson, Edwin Kershaw, Jr.	*Bus. Fund.*	*Tilton*
Simpson, LeRoy Clayton	*E. E.*	*Durham*
Sleeper, Cleveland, Jr.	*A. G.*	*Brookline, Mass.*
Slocum, Gladys Copland	*H. E. I.*	*East Rochester*
Smith, Charles Mermier	*Agr.*	*Laconia*
Smith, Claire Elisabeth	*A. G.*	*Center Sandwich*
Smith, Langdon Cornwall	*A. G.*	*Middletown, Conn.*
Smith, Lawrence Everett	*M. E.*	*Lincoln*
Smith, Robert Elbridge	*Pre-Med.*	*Franklin*
Smith, Royal William	*Agr.*	*Laconia*
Snow, Cedric Winthrop	*I. E.*	*Claremont*
Soderlund, Winifred Maud	*A. G.*	*Medford, Mass.*
Spiller, Doris Nathalie	*A. G.*	*Dover*
Stackpole, George Herbert, Jr.	*A. G.*	*Exeter*
Steeves, Muriel Frances	*A. G.*	*Dover*
Stephens, Edna Beede	*A. G.*	*Wilton*
Stevens, John Fisher	*E. E.*	*Franklin*
Stoddard, Ervilla Annette	*A. G.*	*Rockland, Maine*
Story, Dorothy	*A. G.*	*Hopkinton*
Sullivan, Mary Louise	*H. E. D.*	*Concord*
Sullivan, Mary Margaret	*L. A.*	*Manchester*
Swasey, Muriel E.	*A. G.*	*Exeter*
Taggart, Elizabeth	*H. E. I.*	*Manchester*
Taylor, Byron Pineo	*A. G.*	*Taunton, Mass.*
Toolin, Paul Vincent	*A. G.*	*North Sutton*
Torrey, Margaret Bean	*A. G.*	*Manchester*
Trask, Norman Stewart	*Agr.*	*Auburn, Maine*
Trudell, Edmund Albert	*A. G.*	*Concord*
True, Russell Marston	*M. E.*	*Hampton*
Turschmann, Carl Emil	*E. E.*	*Somersworth*
Vennard, Harold Dame	*A. G.*	*East Lynn, Mass.*
Vincent, Roger J.	*Bus. Fund.*	*Concord*
Waite, Leona	*H. E.*	*Manchester*
Wallace, Russell Gould	*I. E.*	*Keene*
Wallace, Todd Bryce	*Arch.*	*Newton Highlands, Mass.*
Ward, Edward Hugh	*A. G.*	*Wakefield, Mass.*

Name	Course	P. O. Address
Warren, Ruth Evangeline	*A. G.*	*Derry*
Watson, Alice Louise	*Ch. E.*	*Durham*
Webb, George Daland	*A. G.*	*Marlboro*
Weeks, George Newton	*Agr.*	*Portsmouth*
Weeks, Norman Stephen	*Bus. Fund.*	*Gilmanton*
Weinbeck, Alice Emily	*H. E.*	*Exeter*
Wellman, Eleanor Blanche	*A. G.*	*Durham*
Westgate, Warren Adelbert	*Agr. Ch.*	*Plainfield*
Weston, Stewart Norton	*A. G.*	*Concord*
Wheeler, Evelyn Mason	*A. G.*	*New London*
Wheeler, Gordon Emery	*A. G.*	*Manchester*
White, Irene E.	*A. G.*	*Plymouth*
Whitten, Lionel Peterson	*E. E.*	*Manchester*
Wilkinson, Randolph Hyde	*A. G.*	*Lyme*
Williams, Donald Herbert	*E. E.*	*Meriden*
Williamson, Clayton Marnock	*E. E.*	*Dover*
Wilson, Doris Standley	*A. G.*	*Worcester, Mass.*
Wilson, Ralph Brockett	*E. E.*	*Townsend, Mass.*
Woods, Carolyn Elizabeth	*A. G.*	*Epping*
Wright, Esther Alice	*A. G.*	*Keene*
Wright, Ruth Elizabeth	*A. G.*	*Methuen, Mass.*

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Name	Course	P. O. Address
Adams, Arthur Joseph	*Ch. E.*	*Somersworth*
Adams, Robert Cuthbert	*C. E.*	*Gilsum*
Agrafiotis, Peter John	*A. G.*	*Manchester*
Aiken, Oscar Sumner	*A. G.*	*Farmington*
Aldrich, Edward Neil	*Ch. E.*	*Lancaster*
Allsworth, Clayton Reed	*A. G.*	*Branford, Conn.*
Ames, Frank Clement	*C. E.*	*Wilton*
Annett, Dorothy Adaline	*A. G.*	*Rollinsford*
Ashe, Harry Burbank	*Ch. E.*	*Groveton*
Atwood, George Lloyd	*I. E.*	*Berlin*
Avery, Harold Willey	*Bus. Fund.*	*Manchester*
Ayer, Theodore Henry	*A. G.*	*Milton Mills*
Babbitt, Harold Marshall	*Bus. Fund.*	*Hartford, Conn.*
Bakeman, Madelene Edson	*A. G.*	*Franklin*
Baker, Margaret	*A. G.*	*Manchester*

Name	Course	P. O. Address
Barker, Mary Haywood	*A. G.*	*Newcastle*
Batchelder, Charles Edwin	*A. G.*	*Portsmouth*
Batchelder, Leon Wallace	*Agr.*	*Durham*
Bauby, Arnold George	*A. G.*	*Waterbury, Conn.*
Bauer, Elisabeth Blum	*A. G.*	*Durham*
Beck, David Milton	*Arch.*	*Edgewood, R. I.*
Bell, Woodbury Dow	*Hort.*	*Hollis*
Bernstein, Henry Rufus	*Pre-Med.*	*Somersworth*
Biathrow, Frederic Moore	*A. G.*	*Hanover*
Bickford, Maurice Elmer	*Agr.*	*Center Harbor*
Blaisdell, Paul Henry	*A. G.*	*Concord*
Blake, Jane Elizabeth	*A. G.*	*Manchester*
Block, Dorothy Claire	*A. G.*	*North Hampton*
Bourque, Joseph Edward	*A. G.*	*Somersworth*
Bowden, George James	*Ch. E.*	*Somersworth*
Brannen, Mildred Evelyn	*A. G.*	*Durham*
Breck, Mary Elizabeth	*H. E.*	*Claremont*
Britton, Marjorie Lind	*A. G.*	*Marlboro*
Brown, Charles Rodney	*A. G.*	*Peterboro*
Brown, Elizabeth Frances	*H. E.*	*Ashland*
Brown, Florence M.	*A. G.*	*Derry*
Brown, Fred Herman	*A. G.*	*Concord*
Brown, Ralph Adams	*A. G.*	*Cornish Flat*
Bruce, Robert Edmund	*A. G.*	*Ashland*
Buckley, John Ogden	*A. G.*	*Nashua*
Buffum, Edward Henry	*Pre-Med.*	*Manchester*
Bujnievicz, Charles Anthony	*Ch. E.*	*Laconia*
Burnham, Edward Parker	*I. E.*	*Nashua*
Cahalan, Earl Francis	*A. G.*	*West Somerville, Mass.*
Caie, Thomas Arthur	*I. E.*	*Berlin*
Campbell, Celia Storrs	*A. G.*	*Enfield, Conn.*
Campbell, David Robert	*Arch.*	*Dorchester, Mass.*
Chadwick, William Lawrence	*Bus. Fund.*	*Sutton*
Chandler, John Maurice	*For.*	*Bartlett*
Chapman, Randolph Wallace	*A. G.*	*Groveton*
Cheney, Marian Louise	*A. G.*	*South Berwick, Maine*
Child, Elizabeth Lucinda	*A. G.*	*Woodsville*
Clark, John Revie	*A. G.*	*Manchester*
Clark, Justin Munroe	*Ch. E.*	*Portsmouth*

Name	Course	P. O. Address
Clement, William George	*A. G.*	*Laconia*
Cleveland, Esther M.	*A. G.*	*North Stratford*
Cleveland, Harlan Samuel	*A. G.*	*North Stratford*
Cloutman, Hurley Eliphalet	*A. G.*	*Conway*
Colby, Thomas William	*E. E.*	*Haverhill, Mass.*
Columbia, Richard	*A. G.*	*Canaan*
Connor, Margaret Morgan	*A. G.*	*Hillsboro*
Cook, Walter Woodworth	*A. G.*	*Manchester*
Corey, Mildred Viola	*A. G.*	*Manchester*
Cournoyer, Margaret Laura	*A. G.*	*East Jaffrey*
Crawford, Edward William	*A. G.*	*Manchester*
Cromwell, Bruce Stephen	*For.*	*Woodsville*
Cummings, Dane Pettee	*Bus. Fund.*	*Peterboro*
Cummings, Melbourne Wesley	*E. E.*	*Enfield*
Currie, Alexander Blackwood	*A. H.*	*Manchester*
Dahlberg, Marjorie A.	*A. G.*	*Manchester*
Davis, Burnham Surrowes	*A. G.*	*Conway*
DeCourcy, John Henry	*Bus. Fund.*	*Manchester*
DesRochers, Real	*Ch. E.*	*Manchester*
Dicey, Margaret Valentina	*H. E.*	*East Derry*
Dillingham, Marjorie	*A. G.*	*Somersworth*
Dimock, Winona Mabel	*A. G.*	*Portsmouth*
Dow, Gordon Sumner	*Bus. Fund.*	*North Hampton*
Dow, John Henry	*Bus. Fund.*	*Lakeport*
Duncan, Merial Louise	*A. G.*	*Manchester*
Dunlap, Lloyd Walter	*Bus. Fund.*	*Laconia*
Dustin, Frank Carleton	*C. E.*	*Penacook*
Eaton, Clyde Sutherland	*Agr.*	*Greenville*
Ekstrom, Lillian Eleanora	*A. G.*	*Manchester*
Eldridge, Gertrude Alice	*A. G.*	*Cambridge, Mass.*
Elliott, Theodore	*E. E.*	*Dover*
Elwood, Guilford Smith	*P. H.*	*Derry*
Evans, John Beecher	*For.*	*North Stratford*
Evans, Lloyd Llewellyn	*Bus. Fund.*	*Wentworth*
Farrell, Lyle Harlan	*A. G.*	*Manchester*
Fenton, Paul James	*Agr. Tr.*	*Andover*
Fish, Charles Richard	*Ch. E.*	*East Kingston*
Fitzgerald, Leo Patrick	*A. G.*	*Dover*
Fleming, John Daly	*A. G.*	*Durham*

Name	Course	P. O. Address
Fosburgh, David Lionel	*C. E.*	*Manchester*
Fowler, Clarence Albert	*E. E.*	*Concord*
Francis, Horace Brown	*A. G.*	*Manchester*
French, Chauncey Wentworth	*Pre-Med.*	*South Deerfield*
Fuller, Henry Ellsworth	*E. E.*	*Nashua*
Gadbois, Irene Louise	*A. G.*	*Manchester*
Garland, James Hill	*For.*	*Raymond*
Garlock, Ralph Maxon	*A. G.*	*Manchester*
Gienty, Edward Kenneth	*C. E.*	*Warner*
Gilbert, Arthur	*Pre-Med.*	*Somersworth*
Gillingham, Elizabeth	*A. G.*	*Bradford*
Glidden, Kenneth Eugene	*Ch. E.*	*South Berwick, Maine*
Goode, Hollis Robert	*Ch. E.*	*Stoneham, Mass.*
Goodhue, C. Irene	*H. E. I.*	*Wolfeboro*
Googins, Robert Wendell	*A. G.*	*Dover*
Goold, Pierce Edmund	*A. G.*	*Hanover*
Gray, Beatrice Abigail	*H. E.*	*Walpole*
Guptill, Alexander Leo	*Agr.*	*Northwood Ridge*
Gustafson, Clarence Henry	*A. G.*	*Manchester*
Gustafson, Walter Ludwig	*A. G.*	*Portsmouth*
Hall, Herbert Lorenzo	*A. G.*	*Plymouth*
Handy, Iva Louise	*A. G.*	*Keene*
Hare, Richard Moses	*A. H.*	*Amherst*
Harriman, Donald Ray	*A. G.*	*Ashland*
Harriott, Donald Brooks	*A. G.*	*Concord*
Harris, Eleanor Woodward	*A. G.*	*Keene*
Harris, Kora Temple	*A. G.*	*Boothbay Harbor, Maine*
Haselton, Mary Louise	*A. G.*	*Manchester*
Hatch, Harris	*A. G.*	*Stratham*
Hatch, John Knight	*Bus. Fund.*	*Dover*
Hayford, John Enoch, Jr.	*Bus. Fund.*	*Newton*
Haynes, Virginia Porter	*A. G.*	*Brookline, Mass.*
Hemingway, Ellis Lewis	*A. G.*	*Somersworth*
Higgins, George Warren	*P. H.*	*Salem Depot*
Hill, Henry Bertram	*A. G.*	*Needham, Mass.*
Hirschner, Charlotte Pauline	*A. G.*	*Amesbury, Mass.*
Hobbs, Paul Wesley	*Agr.*	*North Hampton*
Hoch, Linford Frederick	*For.*	*Woodside, Del.*
Hodgdon, Melville Stuart	*E. E.*	*Dover*

Name	Course	P. O. Address
Horne, Frank Wescott	*A. G.*	*Conway*
Horne, Ruth Frances	*A. G.*	*Rochester*
Houghton, Clarence Winthrop	*Pre-Med.*	*Walpole*
Houser, Joseph Mahlan	*Pre-Med.*	*Canterbury*
Howell, Cecil Vernon	*A. G.*	*Dover*
Hulbert, Alvin C.	*A. G.*	*Westboro, Mass.*
Hunt, Stanley Elwyn	*Agr. Ch.*	*Lakeport*
Huntoon, Alonzo Hubert	*Agr.*	*Derry*
Huntoon, Isabelle Madeline	*A. G.*	*Warner*
Jackson, John Alfred	*A. G.*	*Durham, Conn.*
Jennings, Robert Otis	*A. G.*	*Winchester, Mass.*
Johnson, Charles Cleaveland	*A. G.*	*Newport*
Johnson, James Joseph	*A. G.*	*Somersworth*
Johnson, Lloyd Charles	*A. G.*	*Milford*
Jones, Walter Leslie	*Pre-Law*	*Walpole*
Joyal, Raymond Joseph	*A. G.*	*Somersworth*
Karabelas, Theodore Louis	*A. G.*	*Dover*
Kelly, John Thomas	*A. G.*	*Nashua*
Kemp, Wyman Foster	*Ch. E.*	*Portland, Maine*
Kincaid, Norman Hardy	*A. G.*	*Sharon, Mass.*
Kirvan, Paul James	*A. G.*	*Portsmouth*
Knapton, Reginald Foster	*Arch.*	*Henniker*
Knight, Raymond Malcolm	*E. E.*	*New London*
Krabek, Wilfred Burleigh	*Ch. E.*	*Dover*
Ladd, Karl Plumer	*I. E.*	*Epping*
Lane, Kenneth Stacy	*C. E.*	*Concord*
Langford, Joseph Walton	*E. E.*	*East Candia*
Learned, Robert Craig	*E. E.*	*Woodsville*
LeClaire, Pauline	*A. G.*	*Nashua*
Ledoux, Eloise Leocadie	*A. G.*	*Nashua*
Little, Dorothy Mae	*A. G.*	*Methuen, Mass.*
Locke, Julia Winter	*A. G.*	*Kennebunk, Maine*
Lothrop, Winston Hammond	*Bus. Fund.*	*Dover*
Lovell, Stewart Foster	*Bus. Fund.*	*Goffstown*
Lucinski, Daniel Joseph	*C. E.*	*Plaistow*
Lyford, Stewart Alonzo	*Arch.*	*Concord*
McClenning, Edward	*Agr.*	*Westmoreland*
McIntire, Harlan Frost	*Bus. Fund.*	*Manchester*
McNab, Eric Lumsden	*Hort.*	*East Andover*

Name	Course	P. O. Address
McNamara, Edward James	*Bus. Fund.*	*West Lebanon*
McShane, Helen Lavinia	*A. G.*	*Dover*
MacDonald, Raymond Francis	*A. G.*	*Peterborough*
McWeeney, Alice Frances	*A. G.*	*Nashua*
Mahoney, William Anthony	*A. G.*	*North Conway*
Manning, John Marcellus	*A. G.*	*Lewiston, Maine*
Mara, John Joseph	*Pre-Med.*	*Manchester*
Martin, Josephine Ella	*A. G.*	*Hartland, Vt.*
Mason, Walter Stocks	*P. H.*	*Canobie Lake*
Messenger, Marshall Edward	*A. G.*	*Westmoreland*
Mooar, Willard Everett	*A. G.*	*Hudson*
Moore, Everett Brooks	*E. E.*	*Keene*
Morrissette, Leon W.	*E. E.*	*Exeter*
Morton, Paul Fillmore	*E. E.*	*Portland, Maine*
Moynihan, Elizabeth Claire	*A. G.*	*North Walpole*
Murdoch, Elizazbeth Louise	*A. G.*	*Manchester*
Neal, Albert Robert	*E. E.*	*Portsmouth*
Nelson, John Francis	*Arch.*	*Gloucester, Mass.*
Nelson, Wallace Stevens	*A. G.*	*Portsmouth*
Nichols, Maurice Seymour	*A. G.*	*Portsmouth*
Nodes, Norbert Coyne	*Bus. Fund.*	*Bergenfield, N. J.*
Norris, Ruth G.	*A. G.*	*Woodsville*
Noyes, Arnold Frederick	*Bus. Fund.*	*Sunapee*
Nye, Gertrude Elizabeth	*A. G.*	*Westville*
Osgood, James Diamond	*A. G.*	*Pittsfield*
Otis, Esther Elizabeth	*A. G.*	*Farmington*
Paige, Isabelle	*H. E.*	*North Weare*
Paolino, Pasquale	*A. G.*	*Lawrence, Mass.*
Parshley, Sylvester Mansfield	*Bus. Fund.*	*Wolfeboro*
Patten, Cynthia Madalyn	*H. E.*	*Brooklyn, Mass.*
Pearl, Charlotte Mildred	*H. E.*	*Exeter*
Peaslee, Charlotte Lucy	*H. E.*	*Reed's Ferry*
Phelps, Ruth Beveridge	*A. G.*	*Durham*
Phillips, John Lewis	*M. E.*	*Rochester*
Pierce, Norman James	*E. E.*	*Wakefield, Mass.*
Pinney, Warren Baker	*Arch.*	*Springfield, Mass.*
Pitcher, Ruthe Emery	*H. E.*	*Keene*
Potter, Dean Spaulding	*C. E.*	*Acworth*
Prew, Gyneth	*A. G.*	*Foxboro, Mass.*

Name	Course	P. O. Address
Putnam, Lawrence Sargent	*A. G.*	*South Lyndeboro*
Rabinovitz, Archie	*A. G.*	*Concord*
Raymond, Mary Gertrude	*A. G.*	*Reed's Ferry*
Record, Hattie Francis	*A. G.*	*East Jaffrey*
Reed, Frank Dudley	*Agr.*	*Newport*
Reed, Gordon Franklin	*Bus. Fund.*	*Gorham*
Reed, Herbert Briggs	*M. E.*	*Keene*
Reynolds, Robert Hodgkins	*A. G.*	*Dover*
Rice, John Cameron	*Arch.*	*Manchester*
Robinson, David Dunlop	*Arch.*	*Lawrence, Mass.*
Rosenthal, Edward Isaac	*Pre-Med.*	*Manchester*
Rourke, Eugene Edward	*A. G.*	*Exeter*
Roy, Sandy Joseph	*A. G.*	*Amesbury, Mass.*
Sacco, Victor	*Arch.*	*Portsmouth*
St. George, Helen Frances	*A. G.*	*Walpole*
Sargent, Robert Everett	*Bus. Fund.*	*Franklin*
Savage, Francis Chadbourne	*I. E.*	*Groveton*
Scripture, Paul Newton	*Agr. Ch.*	*Surry*
Seaver, Frank Raymond	*A. G.*	*New Hampton*
Seavey, Gordon Bailey	*A. G.*	*Westford, Mass.*
Sewell, Charles Arthur	*A. G.*	*Dover*
Shedd, Bernard	*Ch. E.*	*Manchester*
Silvia, Francis John	*A. G.*	*Middleboro, Mass.*
Slack, Dorothy Rita	*A. G.*	*Stratham*
Slayton, Foster Herbert	*A. G.*	*Barre, Vt.*
Smith, Addison Lamprey	*A. G.*	*Woodsville*
Smith, Edward Swan	*Arch.*	*Charlestown*
Smith, Esther Harvey	*A. G.*	*Dover*
Smith, Richard Emery	*A. G.*	*Laconia*
Smith, Rowland Howard	*A. G.*	*Farmington, Maine*
Smith, Wilmot Haven	*Arch.*	*Plymouth*
Snodgrass, Robert Leslie	*Arch.*	*Berlin*
Somers, Arthur Ladd	*A. G.*	*Gloucester, Mass.*
Soper, Carolyn Emma	*A. G.*	*Shelburne Falls, Maine*
Soule, Leon Leslie	*A. G.*	*Brunswick, Maine*
Spencer, Harold Chesley	*Bus. Fund.*	*East Barrington*
Spinney, Alice	*A. G.*	*Worcester, Mass.*
Spinney, Wesley William	*For.*	*Woodsville*
Sprague, Clarence E.	*Bus. Fund.*	*Concord*

Name	Course	P. O. Address
Sprague, Louise Amelia	*A. G.*	*Concord*
Stark, Lewis Morgrage	*A. G.*	*Goffstown*
Starke, Robert Joseph	*A. G.*	*Lawrence, Mass.*
Stewart, Lucy Catharine	*H. E.*	*Exeter*
Stocker, William Albert	*Arch.*	*Sunapee*
Sullivan, Daniel Jeremiah	*Pre-Med.*	*Manchester*
Sumner, George Carter	*E. E.*	*Penacook*
Tahaney, John Wilbur	*A. G.*	*Beverly, Mass.*
Taylor, Julia Alice	*A. G.*	*Durham*
Tetley, Ronald Edmund	*Bus. Fund.*	*Laconia*
Thompson, Roger Ramsdell	*A. G.*	*Somersworth*
Thompson, Ruth Eliza	*A. G.*	*Nashua*
Tilc, Edward Francis	*A. G.*	*Groveton*
Timmins, Mary Elizabeth	*A. G.*	*Exeter*
Tobey, Lester Burgoyne	*For.*	*Hampton*
Tompkins, Lois Urquhart	*A. G.*	*Salem, Mass.*
Toone, Malcolm Percival	*Arch.*	*West Concord*
Tuttle, George Irving	*C. E.*	*Limerick, Maine*
Valakis, John Demosthenes	*A. G.*	*Springfield, Mass.*
Vatcher, George Irving	*E. E.*	*Hancock*
Vilardo, Ross	*A. G.*	*Garfield, N. J.*
Vogel, Stanley Norman	*C. E.*	*Manchester*
Waling, Maurice Gilbert	*A. G.*	*Keene*
Walker, Carl Ernest	*For.*	*Contoocook*
Walls, James Gray	*A. G.*	*Newton*
Walsh, Marguerite Elisabeth	*A. G.*	*Lexington, Mass.*
Warren, Arlin Brown	*A. G.*	*Manchester*
Watts, Frank Emil	*Bus. Fund.*	*Malden, Mass.*
Weber, William Frederick	*For.*	*Manchester*
Wendelin, Carl Gustav	*C. E.*	*Concord*
Wendell, John Quincy	*E. E.*	*Portsmouth*
Wentworth, Warren Gilbert	*A. G.*	*Dover*
West, Marjorie Marie	*A. G.*	*Worcester, Mass.*
Wetherbee, Frederick Minot	*A. G.*	*Milford*
Wettergreen, John Adams	*C. E.*	*Malden, Mass.*
White, Robert Franklin	*Arch.*	*Lancaster*
Wiggin, Howard Melvin	*Agr. Gen.*	*Stratham*
Wilder, William Wallace	*Bus. Fund.*	*Newton*
Willey, Henry Ambrose	*A. G.*	*Durham*

Name	Course	P. O. Address
Woodman, Louise Sherman	*A. G.*	*Woburn, Mass.*
Woodman, Ruth Louise	*A. G.*	*Amesbury, Mass.*
Woodward, Frank George	*A. G.*	*Woodsville*
Wright, Lawrence Whitney	*M. E.*	*Keene*
Wyatt, Harriett Frances	*H. E.*	*North Rochester*
Young, Norman Holt	*A. G.*	*Portsmouth*
Zottu, Paul Demosthenes	*E. E.*	*Keene*

SOPHOMORES (429)

Name	Course	P. O. Address
Abbiati, Flora Regina	*A. G.*	*Milford*
Adams, John Henry	*Pre-Med.*	*Keene*
Adams, Robert Wallace	*E. E.*	*Pittsfield*
Adams, Samuel Taylor, Jr.	*Bus. Fund.*	*Exeter*
Adams, Watson Clark	*E. E.*	*Exeter*
Agranovitch, Edward Irving	*Pre-Law*	*Colchester, Conn.*
Ahern, Elizabeth Margaret	*A. G.*	*Charlestown*
Allan, Philip Farley	*A. G.*	*West Lebanon*
Allen, William Henry	*A. G.*	*Conway Center*
Amsden, Hope Adelaide	*A. G.*	*Dover*
Andrews, Muriel Elizabeth	*A. G.*	*Somersworth*
Annon, Roberta Charlotte	*A. G.*	*Manchester*
Arnold, Dwight Parker	*M. E.*	*Keene*
Arren, John Francis	*E. E.*	*Manchester*
Atwood, Elizabeth	*H. E.*	*Pelham*
Averka, Peter Charles	*Ch. E.*	*Lawrence, Mass.*
Avery, Austin Daniel	*Pre-Med.*	*Goffstown*
Bachelder, Harvey Lloyd	*Bus. Fund.*	*Concord*
Bailey, Dorothy Frances	*A. G.*	*Charlestown*
Bailey, John Weston	*M. E.*	*West Newbury, Mass.*
Baker, Chester A.	*A. G.*	*Portsmouth*
Baldwin, Hollis Walter	*A. G.*	*Colebrook*
Ball, Beverley Winnette	*For.*	*Manchester*
Ball, Wilma Frances	*A. G.*	*Lancaster*
Ballard, Robert Gilman	*E. E.*	*Penacook*
Bannon, Loretta Marie	*A. G.*	*Laconia*
Barnes, Harland Stanley	*M. E.*	*Woodsville*
Bartlett, Benjamin Thomas	*Arch.*	*Derry Village*
Bartlett, Fremont Dayton	*Bus. Fund.*	*Berlin*

Name	Course	P. O. Address
Barton, Charles Almer	*E. E.*	*Newmarket*
Barton, Roger Freeman	*A. G.*	*Groveton*
Batchelder, Earl Boyce	*Bus. Fund.*	*Manchester*
Batemen, William McCullough	*Arch.*	*Claremont*
Beede, John Woodbury	*C. E.*	*Meredith*
Bernaby, Helen Florence	*H. E.*	*Fremont*
Bianchi, Charles Francis	*A. G.*	*Worcester, Mass.*
Blake, Arnold Clark	*M. E.*	*Hill*
Blakey, Bernard Edward	*Bus. Fund.*	*Peterboro*
Blodgett, Parker McKay	*Agr. Tr.*	*Kensington*
Boardman, William D.	*Bus. Fund.*	*Everett, Mass.*
Bodwell, Henry Bradley	*Bus. Fund.*	*Manchester*
Boulanger, Edmee Adeline	*A. G.*	*Dover*
Boyles, Abbott Webster	*E. E.*	*Chester*
Brien, George Edward	*M. E.*	*Springvale, Maine*
Brierley, Jean	*A. G.*	*Lawrence, Mass.*
Bromley, Edward Daniel	*A. G.*	*Lebanon*
Bronson, Hazel Ruggles	*A. G.*	*Claremont*
Brooks, Mabel	*Phys. Ed.*	*Hampton*
Brown, Daniel Adams	*Agr.*	*Rowley, Mass.*
Brown, Ruth Margaret	*A. G.*	*Deerfield*
Brownson, Sheldon Thomas	*Agr.*	*Shelton, Conn.*
Brunel, Sara Louise	*A. G.*	*Concord*
Buckley, Anna Kathryn	*A. G.*	*Dover*
Bunker, Ruth Eleanor	*A. G.*	*Kingston*
Burnham, Florence Ethel	*A. G.*	*Kittery*
Butterfield, Kenneth Parmenter	*For.*	*Antrim*
Calkin, Lois Lavina	*A. G.*	*Concord*
Call, Arthur Joseph	*A. G.*	*Exeter*
Callahan, Millicent	*H. E.*	*Enfield*
Calnan, Beatrice Brennan	*Phys. Ed.*	*Manchester*
Carlson, Gertrude Linnea	*A. G.*	*Hampton*
Carter, James Brigham	*Hort.*	*Madbury*
Castle, Mildred Frances	*A. G.*	*Laconia*
Chapman, Bernard Fulton	*A. G.*	*Groveton*
Chase, Clayton Warren	*C. E.*	*Milford*
Chellis, Margaret Louise	*A. G.*	*Kezar Falls, Maine*
Churchill, Edith Mary	*A. G.*	*Deerfield*
Churchill, Randolph Emerson	*Pre-Law*	*Dover*

Name	Course	P. O. Address
Cilley, Barbara Louise	*A. G.*	*Kingston*
Clarey, John Richard	*A. G.*	*Manchester*
Clark, Beatrice Ethel	*A. G.*	*Dover*
Clark, Jesse Keyes	*E. E.*	*Charlestown*
Cleveland, Alton Allen	*A. G.*	*West Lebanon*
Clifford, Doris Hilda	*A. G.*	*Conway*
Cohen, Anna	*A. G.*	*Portsmouth*
Cohen, Sophia Adella	*A. G.*	*Portsmouth*
Colby, Halstead Norman	*I. E.*	*Concord*
Colby, Richard Woodman	*I. E.*	*Tilton*
Collins, Arthur Bailey, Jr.	*For.*	*Hampton*
Collins, Ralph Wallace	*A. G.*	*Hampstead*
Connor, Lester Earl	*Agr.*	*Henniker*
Cooper, Bradley Marshall	*E. E.*	*Lincoln*
Cooper, Robert Folsom	*A. G.*	*Exeter*
Corpening, Willard Newton	*Pre-Med.*	*Farmington*
Couser, Thomas Clifford	*Bus. Fund.*	*Dover*
Crosby, Ralph William	*A. G.*	*Nashua*
Croteau, Oscar Frederick	*Pre-Med.*	*Marlboro*
Crowley, James William	*A. G.*	*Rockland, Mass.*
Crowther, Stephen Thomas	*A. G.*	*Derry Village*
Cummings, Edward Sawyer	*A. G.*	*Concord*
Cummings, Mary Louisa	*A. G.*	*Colebrook*
Cummings, Merlyn Arthur	*M. E.*	*Alton*
Currier, Edna Louise	*A. G.*	*Salisbury, Mass.*
Currier, Fred Leslie	*A. G.*	*South Hampton*
Dacey, Joseph James	*A. G.*	*Kingston*
Daigle, Rene Maurice	*Bus. Fund.*	*Manchester*
Dame, Arnold Clarence	*Pre-Dent.*	*Rochester*
Damon, Mazzios	*Bus. Fund.*	*Exeter*
Dauphinee, Gertrude Chapman	*A. G.*	*Amesbury, Mass.*
Davis, Alice Lillian	*A. G.*	*Fremont*
Dawson, George Howard	*Educ.*	*Plymouth*
Decker, Gordon Ulysses	*M. E.*	*Claremont*
Demers, William Leahy	*A. G.*	*Somersworth*
Derby, Clarence John	*Bus. Fund.*	*Peterboro*
Dickinson, Louise Anna	*A. G.*	*Rochester*
Donnelly, John Joseph	*E. E.*	*Dover*
Dow, Lena May	*A. G.*	*North Hampton*

Name	Course	P. O. Address
Dowd, Henry Hubert	*Arch.*	*Nashua*
Downing, Roger Herwald	*Bus. Fund.*	*Wentworth*
Dozois, Roland Ernest	*Pre-Med.*	*Manchester*
Dresser, Holland Lamb	*A. G.*	*South Portland, Maine*
DuBois, William Haskell	*Bus. Fund.*	*Concord*
Dubuc, Maurice Henry	*For.*	*Nashua*
Duncklee, Dorothy Page	*A. G.*	*West Lebanon*
Duquenne, Georges Charles	*A. G.*	*Holyoke, Mass.*
Duquette, Henry Benjamin	*E. E.*	*Penacook*
Durgin, Evangeline	*A. G.*	*Newmarket*
Durgin, Roslyn Caverly	*Agr.*	*Newmarket*
Dwyre, Katherine Claire	*A. G.*	*Canaan*
Dyer, George Wilbur	*Bus. Fund.*	*Everett, Mass.*
Eastham, Alice Scott	*A. G.*	*Portsmouth*
Eastwood, Eric	*Arch.*	*Lynn, Mass.*
Edmunds, Leroy P.	*A. G.*	*New London*
Edwards, Evan Jonathan	*M. E.*	*Manchester*
Ellis, Clifford Weston	*E. E.*	*Nashua*
Engel, Fiesco Byron	*M. E.*	*Penacook*
Eugley, Arthur Reddington, Jr.	*Educ.*	*Exeter*
Farland, Ralph Amedee	*Pre-Med.*	*Nashua*
Farley, Ellen Josephine	*A. G.*	*Dover*
Farnsworth, Hugh McLellan	*A. G.*	*Franklin*
Farwell, Laurence G.	*E. E.*	*Bridgeport, Conn.*
Fay, Charles Robert	*E. E.*	*Keene*
Feldman, Saul	*Bus. Fund.*	*Manchester*
Files, Bertrand Colby	*E. E.*	*Meredith*
Fish, Joseph Theodore	*C. E.*	*East Kingston*
Fisher, V. Hoitt	*Ch. E.*	*Andover*
Fitzgerald, John Thomas	*A. G.*	*Milford*
Flanigan, Justin Edward	*A. G.*	*Portsmouth*
Flayhan, Alfred Charles	*Pre-Med.*	*Dover*
Fleming, Joseph Oliver	*A. G.*	*New London*
Flynn, Richard Joseph	*A. G.*	*Dover*
Ford, Arthur Leonard Dunning	*A. G.*	*Exeter*
Fowler, Ralph L.	*A. G.*	*Dover*
Frame, Marian Ellen	*A. G.*	*Manchester*
French, Harold Taylor	*A. G.*	*Exeter*
Frye, Gilman Virgin	*Bus. Fund.*	*Franklin*

Name	Course	P. O. Address
Fuller, Jesse Trull, Jr.	*Bus. Fund.*	*Atkinson*
Gaffield, Alice Louise	*A. G.*	*Bradford, Vt.*
Gay, Esther Annetta	*A. G.*	*New London*
Gaunt, Nelson	*A. G.*	*Worcester, Mass.*
Gee, Warren Herbert	*I. E.*	*Winchester*
George, Howard Wakeman	*Bus. Fund.*	*Manchester*
Gershovitz, Saul	*Pre-Med.*	*New London, Conn.*
Gilchrist, Marshall Whitney	*A. G.*	*Henniker*
Gile, Alonzo Robertson	*Agr.*	*Tilton*
Gillette, Charles Welcome	*I. E.*	*Nashua*
Girard, Henri Lionel	*Pre-Med.*	*Manchester*
Glazier, Phyllis N.	*A. G.*	*Salem Center*
Gleason, Margaret Elizabeth	*A. G.*	*Derry*
Goodwin, Crystal	*A. G.*	*Dover*
Goggins, Danforth Merton	*E. E.*	*Durham*
Gray, Gertrude	*A. G.*	*Whitefield*
Grenier, Jacques Lionel	*A. G.*	*Manchester*
Grenier, Jean Donat	*Bus. Fund.*	*Manchester*
Griffin, Eliza Caroline	*A. G.*	*East Granby, Conn.*
Guild, Earle Winfred	*Hort.*	*Walpole*
Gulliver, Reginald Everett	*A. G.*	*Needham, Mass.*
Gulumian, Hrant Garabed	*M. E.*	*Penacook*
Guptill, Jennie Elizabeth	*A. G.*	*Portsmouth*
Guston, Gustaf David	*Arch.*	*Sunapee*
Guy, John Timothy	*A. G.*	*Somersworth*
Hadley, George Langdon	*A. G.*	*Manchester*
Hall, James Henry	*For.*	*Warner*
Hall, Oscar Oliver	*E. E.*	*Salem*
Ham, Winifred Priscilla	*A. G.*	*Manchester*
Hamel, Paul Raymond	*Pre-Med.*	*Manchester*
Hamlin, Marion G.	*H. E.*	*Nashua*
Hampson, Louise Edith	*A. Ch.*	*Littleton*
Hanley, James Anthony	*Pre-Law*	*Franklin*
Harriman, Paul Russell	*Bus. Fund.*	*Jackson*
Harris, Ruth Louise	*A. G.*	*Keene*
Hartford, Lenora Elenor	*H. E.*	*Tilton*
Hartford, Rachel Eva	*A. G.*	*Derry*
Hartshorn, George Main	*Bus. Fund.*	*Barnstead*
Harwood, Kate Marion	*A. G.*	*Nashua*

Name	Course	P. O. Address
Hayes, Maxwell Connary	*E. E.*	*Lincoln*
Hennessey, Thomas Edward	*A. G.*	*Somersworth*
Hertz, Saul	*Bus. Fund.*	*Malden, Mass.*
Higgins, Alfred John	*A. G.*	*Pittsfield, Mass.*
Hildreth, Sidney Adams	*Pre-Med.*	*Marlboro*
Hill, Bertha Pauline	*H. E.*	*Manchester*
Hinckley, Leonard	*M. E.*	*Mamaroneck, N. Y.*
Hobbs, Russell Atherton	*A. G.*	*Hampton*
Hobson, Dorothy May	*P. E.*	*Gorham*
Hodgdon, Albion Reed	*A. G.*	*Dover*
Hodgdon, Mavis Blanche	*A. G.*	*Rochester*
Hodgkins, Elliott Norris	*Arch.*	*Manchester*
Holt, Ralph Davis	*M. E.*	*Nashua*
Holt, Ruth Elizabeth	*A. G.*	*Nashua*
Hoover, Phillip Forrester	*E. E.*	*Enid, Okla.*
Hopkins, Carrie May	*A. G.*	*Francestown*
Houle, Harold Cyril	*C. E.*	*Raymond*
Houston, Norman Johnson	*E. E.*	*Bath*
Howell, Harold Alton	*For.*	*Dover*
Hudon, Roland Edward	*A. G.*	*Salmon Falls*
Hunt, Edward Hamilton	*I. E.*	*Exeter*
Huovinen, Helen Olive	*A. G.*	*Fitzwilliam Depot*
Hurley, Charles	*A. G.*	*Portsmouth*
Hyde, Gerald Randolph	*For.*	*Goffstown*
Jackson, Clarence	*Bus. Fund.*	*Lebanon*
Jackson, James Matthew	*Pre-Law*	*Dover*
Jewell, Nelly Margaret	*A. G.*	*Warner*
Johnson, Dorothy Preston	*A. G.*	*Nashua*
Johnson, Fred Arnold	*Arch.*	*Berlin*
Johnson, Ralph Roscoe	*Pre-Med.*	*Hampton*
Jones, Dorothy Eleanor	*A. G.*	*Manchester*
Kellam, David Bean	*Ch. E.*	*North Conway*
Kendall, Elizabeth Parker	*H. E.*	*Manchester*
Kepnes, Benjamin	*A. G.*	*Chelsea, Mass.*
Kidder, Mary Helen	*A. G.*	*New London*
Kimball, Russell Gibbs	*A. G.*	*Portsmouth*
King, Anna Julia	*A. G.*	*North Walpole*
King, Rufus Dodge	*Pre-Med.*	*Manchester*
Kirk, John Kenneth	*A. Ch.*	*Manchester*

Name	Course	P. O. Address
Lamb, Joseph Lane	*Ch. E.*	*Portsmouth*
Lanouette, Jessie Corinne	*A. G.*	*Somersworth*
Lassell, Mary Bessom	*H. E.*	*Newmarket*
Lavallee, Hubert Aisene	*I. E.*	*Berlin*
Lavoie, Ena J.	*A. G.*	*Manchester*
Lawrence, Luther Herbert	*D. H.*	*Durham*
Lee, Chun	*E. E.*	*Canton, China*
Leitch, Donald Robert	*Pre-Med.*	*Manchester*
Levine, Irving Israel	*A. G.*	*Durham*
Lindell, Ruth Natalie	*A. G.*	*Manchester*
Littlefield, Eldred Martin	*Pre-Law*	*Center Conway*
Lockwood, Grace Florence	*A. G.*	*Dover*
Lord, Florence Madeline	*A. G.*	*Conway*
Low, Winifred	*A. G.*	*Derry*
Luce, Hazel Ruth	*A. G.*	*Exeter*
Lundstrom, Edith Oliver	*H. E.*	*Worcester, Mass.*
Lyford, Walter Henry, Jr.	*Ch. E.*	*Epping*
McCann, James Philip	*A. G.*	*Dover*
McCooey, Daniel Farley	*Pre-Med.*	*Dover*
McDanolds, Margaret R.	*A. G.*	*North Haverhill*
McFarland, Donald Jackson	*A. G.*	*Concord*
McGrail, Marie Jeannette	*A. G.*	*Dover*
McGraw, Marguerite Louise	*A. G.*	*Lancaster*
McIntire, Wendell Moody	*Pre-Law*	*Manchester*
McIntosh, Sheldon Weeks	*Pre-Med.*	*Manchester*
McLeod, John Kenneth	*A. G.*	*Concord*
McNamara, S. Lenore	*H. E.*	*North Walpole*
McNutt, Flora Virginia	*H. E.*	*Durham*
MacRae, Elizabeth	*Pre-Med.*	*Dover*
Maclaren, Pauline Rosalind	*A. G.*	*Concord*
Marsh, Morris Raymond	*M. E.*	*Gonic*
Marston, Evelyn Ellen	*A. G.*	*Ashland*
Martoski, Stanley John	*Arch.*	*Durham*
Mason, Clinton Kenneth	*A. G.*	*Keene*
Mathes, Valentine DeWitt	*A. G.*	*Dover*
Maynard, Helen Gertrude	*A. G.*	*Concord*
Melendy, Elizabeth Nella	*A. G.*	*Manchester*
Meyers, Maurice Hank	*Pre-Med.*	*Miami, Fla.*
Michaud, Albert Dennis	*Bus. Fund.*	*Gorham*

Name	Course	P. O. Address
Miller, Paulyn Robin	*A. G.*	*Portsmouth*
Minah, Theodore Warren	*Bus. Fund.*	*Nashua*
Mitchell, Alta Doris	*A. G.*	*Concord*
Moran, Phyllis Marguerite	*A. G.*	*Somersworth*
Morin, Aline Lydia	*A. G.*	*Berlin*
Morris, Lillian Mae	*A. G.*	*Durham*
Muchmore, Arthur Sherman	*Agr.*	*North Woodstock*
Muggleston, Harold William	*Pre-Med.*	*Rochester*
Mullane, James	*A. G.*	*Portsmouth*
Nason, Dorothy Ellsworth	*A. G.*	*Dover*
Nealley, Miriam Andrews	*A. F.*	*South Berwick, Maine*
Nelson, Ralph Sylvester, Jr.	*A. G.*	*Manchester*
Nelson, William J.	*A. G.*	*Wolfeboro*
Newkom, Oskar	*Pre-Med.*	*Plaistow*
Neville, Kathleen Patricia	*A. G.*	*Nashua*
Nichols, John Ballou	*A. G.*	*Danvers, Mass.*
Niebels, Alva Carpenter	*For.*	*Providence, R. I.*
Nudd, Philip	*E. E.*	*Hampton*
Oakman, Mary Louise	*A. G.*	*South Braintree, Mass.*
O'Brien, Margaret Helen	*A. G.*	*Malden, Mass.*
O'Hare, John Cornelius	*Pre-Med.*	*Nashua*
Palmer, Gordon Franklin	*A. G.*	*Moultonboro*
Pap, Alpha James	*Agr. Ch.*	*Manchester*
Paradis, Doris Viola	*A. G.*	*Somersworth*
Parker, Clifford Addison	*P. H.*	*Exeter*
Parks, Philip Edward	*Bus. Fund.*	*Bradford, Mass.*
Patch, Lloyd Gilman	*A. G.*	*Portsmouth*
Patenaude, Merle Roscoe	*Ch. E.*	*Henniker*
Pearson, Marian Eva	*A. G.*	*Brookline, Mass.*
Pederson, Ernest Otto	*A. G.*	*Berlin*
Perkins, Daniel Nahum	*A. G.*	*Dover*
Perkins, Ernest Marshall	*Bus. Fund.*	*East Kingston*
Perkins, John Fremont	*I. E.*	*Meredith*
Perreault, Raymond Richard	*Pre-Med.*	*Rochester*
Petazzi, Leona Louise	*A. G.*	*Milford*
Pettee, Fred Cristy	*Bus. Fund.*	*Francestown*
Phipps, Robert Howard Kingsbury	*For.*	*Gorham*
Phelps, Henry Maynard	*Ch. E.*	*Concord*
Pickwick, Madeline	*A. G.*	*Manchester*

Name	Course	P. O. Address
Pike, Mary Currier	*P. E.*	*Portsmouth*
Pillsbury, Everett Edwin	*C. E.*	*Derry*
Potts, Margaret Hale	*A. G.*	*Durham*
Powers, Charlotte	*A. G.*	*Fitchburg*
Powers, Samuel Eugene	*A. G.*	*Concord*
Priest, Leona Frances	*A. G.*	*Newmarket*
Prince, William Lawton	*A. G.*	*Dorchester, Mass.*
Purinton, Walter George	*M. E.*	*Raymond*
Putnam, Ida Lydia	*H. E.*	*Nashua*
Quimby, Cedric Dean	*Ch. E.*	*Claremont*
Randall, George William	*A. G.*	*Portsmouth*
Redden, Daniel Joseph	*A. G.*	*Dover*
Reed, Ethel Minnie	*A. G.*	*Claremont*
Reed, Gilbert Hood	*A. G.*	*Braintree, Mass.*
Reinhart, Alvin Richard	*Arch.*	*Medfield, Mass.*
Richard, Heloise Elsie	*A. G.*	*Dover*
Richardson, Homer Huntress	*E. E.*	*Dover*
Robinson, Harold Maxwell	*I. E.*	*Lowell, Mass.*
Robinson, Kenneth Heaton	*A. G.*	*Keene*
Rogers, Frank Alna, Jr.	*A. G.*	*Franklin*
Ronald, James Andrew	*A. G.*	*Quincy, Mass.*
Rouillier, Napoleon Ernest	*E. E.*	*Goff's Falls*
Rowe, Marjorie Pauline	*A. G.*	*Concord*
Roy, Thomas Kilda	*A. Cn.*	*Manchester*
Rundlett, Harold Goodsoe	*Arch.*	*Exeter*
Russell, Mary Elizabeth	*A. G.*	*George's Mills*
Sanborn, Forrest John	*A. Ch.*	*Laconia*
Savory, Emily Elizabeth	*H. E.*	*Warner*
Sawyer, Hollis Freeman	*A. G.*	*Groveton*
Sawyer, Leon Randolph	*C. E.*	*South Danbury*
Sawyer, Ray Stillman	*Bus. Fund.*	*Manchester*
Scamporino, Vincent	*Pre-Law*	*Salem Center*
Schiller, Robert William	*A. G.*	*Manchester*
Schnare, Herbert Stewart	*A. G.*	*Berlin*
Schwartz, Louis	*Pre-Law*	*Portsmouth*
Scott, Harold Samuel	*A. G.*	*Milford*
Searle, Gilbert William	*Arch.*	*Methuen, Mass.*
Seavey, Walter Allen	*Bus. Fund.*	*Rochester*
Sewell, Dorothy Augusta	*A. G.*	*Dover*

Name	Course	P. O. Address
Shea, John Robert	*A. G.*	*Manchester*
Sheehan, Eleanor Lucey	*A. G.*	*Portsmouth*
Shepard, Paul Benjamin	*A. G.*	*New London*
Shuff, Saul	*A. G.*	*Concord*
Simonds, Gardner William	*A. G.*	*Manchester*
Sirhakis, Nicholas William	*I. E.*	*Somersworth*
Small, John Albert	*Bus. Fund.*	*Nashua*
Smart, Kennard Rutledge	*For.*	*Portsmouth*
Smith, Fred Ernest	*Arch.*	*West Haven, Conn.*
Smith, Frederic Henry	*A. G.*	*Gloucester, Mass.*
Smith, Grace Edith	*A. G.*	*Goffstown*
Smith, Harold William	*E. E.*	*Rochester*
Smith, Harry Russell, Jr.	*A. G.*	*Dover*
Smith, Henry Mathew	*M. E.*	*Dover*
Smith, Marion Edith	*Phys. Ed.*	*Lakeport*
Smith, Newton Parker	*A. G.*	*Hudson*
Smith, Pauline Leavitt	*A. G.*	*North Hampton*
Smith, Raymond Elmer	*E. E.*	*Dover*
Smith, Ruth Marion	*H. E.*	*Manchester*
Southmayd, Elwyn Harold	*Pre-Law*	*Franklin*
Stackpole, Bryant Woodbury	*Arch.*	*Exeter*
Stetson, Robert Shaw	*I. E.*	*Plaistow*
Stevens, Isabel	*A. G.*	*Hyde Park, Mass.*
Stevens, Jesse John	*A. G.*	*Whitefield*
Stolovsky, Louis	*A. G.*	*Lebanon*
Stolworthy, Ruth Helen	*A. G.*	*Durham*
Stone, Edith Louise	*A. G.*	*Dover*
Stoughton, Roy Leslie	*Ch. E.*	*Whitefield*
Szlosek, Stanley Francis	*E. E.*	*Nashua*
Szuch, Alec Michael	*Ch. E.*	*North Walpole*
Tapscott, Raymond Thomas	*M. E.*	*Somersworth*
Tarr, Dorothy Elizabeth	*A. G.*	*North Hampton*
Tarr, Horace Austin, Jr.	*M. E.*	*North Hampton*
Taylor, Alfred Henry	*Ch. E.*	*Pearl River, N. Y.*
Terry, Joseph Church	*E. E.*	*Fall River, Mass.*
Theall, John William	*E. E.*	*Manchester*
Thunberg, Carl Andrew	*Agr.*	*Contoocook*
Thyng, Frank Gilman	*Bus. Fund.*	*Exeter*
Tierney, John Thomas	*A. G.*	*Manchester*

NAME	COURSE	P. O. ADDRESS
Tinker, James Foster	*E. E.*	*Manchester*
Todd, Catherine Alberta	*A. G.*	*New London*
Tounge, Harry Goodwin	*Pre-Med.*	*Wakefield, Mass.*
Towle, Ruth Celia	*A. G.*	*Conway*
Truell, Harold Arthur	*A. G.*	*Newport*
Tucker, Francis Pearce	*A. G.*	*Portsmouth*
Tufts, Oliver Augustus, Jr.	*A. G.*	*Lancaster*
Twombly, Gertrude Messenger	*A. G.*	*Portsmouth*
Tyler, Clyde Leroy	*A. G.*	*New London*
Underwood, Clarence Albert	*I. E.*	*Manchester*
Vachon, Edmond Joseph	*Pre-Law*	*Rochester*
Vanni, Jocondo Dominick	*Bus. Fund.*	*Peterboro*
Varney, Elizabeth Adams	*A. G.*	*Somersworth*
Varney, Marjory Eleanor	*A. G.*	*Alton Bay*
Vaughan, Mary Eleanor	*A. G.*	*Manchester*
Vidiborsky, Solomon	*Pre-Med.*	*Dorchester, Mass.*
Vogel, Helen Frances	*H. E.*	*Manchester*
Waite, John Herrick	*Agr.*	*Peterboro*
Wallace, Douglas Murray	*A. G.*	*Tilton*
Watson, Ethel Mary	*A. G.*	*Candia*
Watson, George Wilder	*Agr.*	*Durham*
Weast, Florence Iola	*A. G.*	*Contoocook*
Webster, David B.	*A. G.*	*Hudson*
Webster, Russell Goodwin	*Ch. E.*	*South Berwick, Maine*
Wentworth, Cecil Agnew	*Pre-Law*	*Dover*
Wheeler, Elmer Moore	*Arch.*	*Milford*
Wheeler, Kenneth Eugene	*E. E.*	*New London*
Whitcher, Stanley Lawrence	*A. G.*	*Wentworth*
Whitcomb, Arthur Knowlton	*E. E.*	*Cold River*
White, Nathan	*Pre-Med.*	*Brooklyn, N. Y.*
Whittemore, Pauline Elizabeth	*A. G.*	*Lyme*
Wiggin, Lena Blanche	*A. G.*	*Stratham*
Wile, Lester Milton	*A. G.*	*Winthrop, Mass.*
Wilkins, Elizabeth	*A. G.*	*Henniker*
Willey, Floyd Lester	*A. G.*	*Manchester*
Wilson, Eunice Mayde	*A. G.*	*Milan*
Wilson, James Lawrence	*A. G.*	*Haverhill*
Winch, Frederick Bell	*A. G.*	*Canaan*
Winkler, Eugene Stephen	*A. G.*	*Exeter*

Name	Course	P. O. Address
Withington, George Wesley	*E. E.*	*Penacook*
Wolf, Edward Isreal	*Bus. Fund.*	*Milford*
Wood, Winchester Ridout	*E. E.*	*Lebanon*
Woodward, Charles Philip	*Bus. Fund.*	*Milford*
Wright, Stanley William	*A. G.*	*Rochester*
Wurdeman, Bruce V.	*A. G.*	*Milford*
Yeaton, Rose Dearborn	*A. G.*	*Tilton*
Youland, Zelma Ruth	*A. G.*	*Manchester*
Young, Louise Shackford	*A. G.*	*Dover*

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Name	Course	P. O. Address
Adams, Earl Marshall	*A. G.*	*Manchester*
Adams, Everett Edwin	*A. G.*	*Hancock*
Ahlgren, Adler Robert	*A. G.*	*Manchester*
Aldrich, Lucien Brainard	*C. E.*	*Keene*
Alexander, Thomas Branch	*Ch. E.*	*Newport*
Allan, Richard Kent	*Bus. Fund.*	*West Lebanon*
Almond, Henry	*Pre-Med.*	*Rochester*
Alley, Elizabeth Stetson	*A. G.*	*Union*
Annia, Mary Goding	*A. G.*	*Londonderry*
Armstrong, Elaine Marguerite	*A. G.*	*Manchester*
Austin, George Fred	*E. E.*	*Manchester*
Austin, John Harold	*Arch. ('26)*	*South Berwick, Maine*
Baer, Adolph Jacob	*Bus. Fund.*	*Dover*
Bagley, Clifford Howard	*Bus. Fund.*	*Smithtown*
Bagley, Gerald Ransom	*Hort.*	*Lebanon*
Bair, Carl Morris	*A. G.*	*Berlin*
Baker, Robert Gordon	*E. E.*	*Derry*
Ballou, Laurence Frank	*M. E.*	*Troy*
Barden, Neil Clifford	*Arch.*	*Lebanon*
Barrett, Hildah Eda	*A. G.*	*Lisbon*
Barron, Ralph Ernest	*A. G.*	*Worcester, Mass.*
Barry, Walter Leo	*A. G.*	*Dover*
Bartlett, John Stevens	*M. E.*	*New Boston*
Bean, Rachel Winnifred	*A. G.*	*Errol*
Beaudry, Yvonne Angelina	*A. G.*	*Claremont*
Beecher, Clarence Leland	*E. E.*	*Errol*
Beede, Marcelia Louise	*A. G.*	*Campton*

Name	Course	P. O. Address
Benedict, William Frederick	*Pre-Med.*	*Melrose, Mass.*
Bergquist, Marion Elizabeth	*A. G.*	*Manchester*
Berry, Donald Fiske	*Pre-Law*	*New Boston*
Billman, Kathryn Luella	*A. G.*	*Wollaston, Mass.*
Black, Fannie	*A. G.*	*Portsmouth*
Blair, Jeanette Moore	*A. G.*	*Peterboro*
Blaisdell, Millard Alvin	*A. G.*	*Exeter*
Blaisdell, Robert Willoughby	*Bus. Fund.*	*Concord*
Blake, Ella Lorraine	*A. G.*	*Mason*
Blanchard, Donald Tulloch	*Agr. Tr.*	*Penacook*
Blanchard, Emery Caswell	*A. G.*	*Meredith*
Blount, Wayne Lawrence	*M. E.*	*Littleton*
Bodwell, Frances Louise	*A. G.*	*Rochester*
Boisvert, Wilfrid Athanase	*A. G.*	*Manchester*
Boothroyd, Kenneth Ingham	*C. E.*	*Woodsville*
Bouchard, Charles Edward	*M. E.*	*Manchester*
Bouchard, Lucien George	*Pre-Med.*	*Nashua*
Bournival, Emile Ernest	*A. G.*	*Manchester*
Bowdler, Gladys Louise Melvin	*A. G.*	*Concord*
Bowker, Marshall Edward	*E. E.*	*Kittery, Maine*
Brennan, Eleanor Teresa	*A. G.*	*Dover*
Brennan, Thomas Joseph	*Bus. Fund.*	*Dover*
Brierley, Frances	*A. G.*	*Lawrence, Mass.*
Brooks, Charles Hussey	*A. G.*	*Dover*
Brown, Charles Knowlton	*M. E.*	*South Danbury*
Brown, Donald Mason	*Bus. Fund.*	*Milford*
Brown, Joseph True	*A. G.*	*Deerfield*
Brown, Mary Emma	*A. G.*	*Deerfield*
Brown, Wilfred Ernest	*C. E.*	*Manchester*
Brungot, Clarence Jorgen	*M. E.*	*Berlin*
Bryant, Floyd Goodwin	*Bus. Fund.*	*Tilton*
Buckminster, Kenneth Bridge	*A. G.*	*Concord*
Burdett, Keith Franklyn	*Bus. Fund.*	*Swampscott, Mass.*
Burke, Marion Spaulding	*A. G.*	*Manchester*
Burleigh, Austin Holmes	*M. E.*	*Tavares, Fla.*
Burns, Arthur Royal	*Bus. Fund.*	*Manchester*
Bushey, Leonard Boast	*E. E.*	*Concord*
Bussell, Arthur Lalor	*A. G.*	*Dumont, N. J.*
Butman, Clarence Dana	*Bus. Fund.*	*West Lebanon*

Name	Course	P. O. Address
Butson, Ernest Henry	*Bus. Fund.*	*Lisbon*
Callahan, Robert Henry	*Bus. Fund.*	*Gloucester, Mass.*
Camann, Louis Harold	*A. G.*	*Laconia*
Camp, Edward Steward	*E. E.*	*Lebanon*
Campana, Fiore	*A. G.*	*Lebanon*
Carlen, Jans Julius	*E. E.*	*Concord*
Carlisle, Daniel Folsom	*Agr.*	*Exeter*
Caron, Lorette Georgette	*A. G.*	*Manchester*
Carlton, Leslie Herbert	*A. G.*	*Fremont*
Carpenter, Doris May	*A. G.*	*Newmarket*
Carpenter, Ella R.	*A. G.*	*Bristol*
Carpenter, Helen Genevieve	*A. G.*	*Somersworth*
Carr, Dorothy June	*A. G.*	*Hill*
Carr, Eva	*A. G.*	*Contoocook*
Carr, Robley Franklin	*Bus. Fund.*	*Concord*
Carrigan, John Edward	*Pre-Med.*	*Somersworth*
Carroll, Newton LeRoy	*A. G.*	*Dover*
Casey, James Patrick	*A. G.*	*Somersworth*
Cassily, Elizabeth Frances	*A. G.*	*Dover*
Castonguay, Marjorie June	*A. G.*	*Franklin*
Charles, Russell Dean	*E. E.*	*Rochester*
Charron, Roland Bartholomew	*Pre-Med.*	*Nashua*
Chase, Allan Snyder	*A. G.*	*Concord*
Chase, Leslie Oliver	*Pre-Law*	*Milton*
Cheetham, Tom	*Ch. E.*	*Nashua*
Christensen, Harry Edward	*Pre-Med.*	*Durham*
Christie, Aldis J.	*For.*	*Groveton*
Christopher, Esther Webster	*H. E.*	*South Lyndeboro*
Cilley, Charles Dorr	*A. G.*	*Dover*
Clapp, Kenneth Turner	*A. G.*	*Hampton*
Clark, Hurlbut Gibson	*M. E.*	*Litchfield*
Clark, Inez Lucille	*A. G.*	*Durham*
Clark, Muriel Mildred	*Phys. Ed.*	*Center Barnstead*
Clark, William Edward	*M. E.*	*Charlestown*
Clarner, Louis George Karl	*C. E.*	*Concord*
Clay, Sam Brayton	*A. G.*	*Plymouth*
Cochrane, Robert Preston	*M. E.*	*Rochester*
Colburn, George Clement	*A. G.*	*Newton, Mass.*
Coldwell, Harry Irving	*E. E.*	*Goff's Falls*

Name	Course	P. O. Address
Collins, John Francis	*A. G.*	*Manchester*
Connell, Joseph Charles	*A. G.*	*Groveton*
Connor, Margaret Elizabeth	*A. G.*	*Manchester*
Cook, George Milton	*A. G.*	*New Bedford, Mass.*
Cook, Virginia	*A. G.*	*North Stratford*
Cooper, John Edward	*M. E.*	*Northwood*
Corson, Hilda	*A. G.*	*Rochester*
Coutchoucos, John George	*A. G.*	*Manchester*
Cram, Margaret Lakin	*A. G.*	*Hampton Falls*
Crawford, Maurice Morton	*A. G.*	*Manchester*
Cressy, Muriel Gladys	*A. G.*	*Concord*
Croke, Harry William	*A. G.*	*Claremont*
Croteau, Omer Manley	*Pre-Med.*	*Marlboro*
Crowell, Frank Payson	*M. E.*	*Manchester*
Cryans, James Edmond	*M. E.*	*Berlin*
Cunningham, Horace James	*E. E.*	*Berlin*
Currie, Wilsie Austin	*I. E.*	*Providence, R. I.*
Curtis, Rosie Holt	*A. G.*	*Wilton*
Cushing, Merchant LeRoy	*Ch. E.*	*Plaistow*
Daggett, Helen Eaton	*A. G.*	*Concord*
Danforth, Mildred Emeline	*A. G.*	*Durham*
Daniels, Almon Meikle	*Agr.*	*Henniker*
Davis, Barbara	*A. G.*	*Fall River, Mass.*
Davis, Henry Albert	*Agr.*	*East Sullivan*
Davis, Ruth Eleanor	*A. G.*	*Needham, Mass.*
Davis, Walter George	*E. E.*	*Nashua*
Dean, Rexford Stanley	*A. G.*	*Durham*
Dearborn, Charles Edwin	*A. G.*	*Newmarket*
DeLude, Frederick Edward	*Ch. E.*	*Keene*
Dick, Arthur Freeman	*E. E.*	*Wilton*
Dickey, Frank Wallace	*E. E.*	*Manchester*
Doane, Kenneth Lincoln	*A. G.*	*North Chatham, Mass.*
Dodge, Richard Morgan	*Bus. Fund.*	*Manchester*
Dodge, Thelma Louise	*A. G.*	*North Hampton*
Donovan, Francis Rule	*A. G.*	*Keene*
Donovan, Jerry Joseph	*Agr.*	*Exeter*
Dorval, Malvina Bernadette	*H. E.*	*Derry*
Douglas, Howard William	*A. G.*	*Brattleboro, Vt.*
Douglass, Virginia Smith	*A. G.*	*East Haverhill*

Name	Course	P. O. Address
Downing, Charles Jackson	*C. E.*	*Wentworth*
Duggan, Edwin Quimby	*A. G. ('26)*	*Worcester, Mass.*
Dunlap, Kenneth Robert	*A. G.*	*Laconia*
Dustin, Edward Eugene	*C. E.*	*Penacock*
Edelstein, Harold Jacob	*A. G.*	*Nashua*
Edmunds, Kenneth Bain	*E. E.*	*Stratham*
Ellingwood, Daniel Milton	*A. G.*	*Littleton*
Ellis, Clifton	*E. E.*	*Londonderry*
Emery, Alvin Goodwin	*Arch.*	*Hampton*
Emery, Paul Dearborn	*A. G.*	*Keene*
Ennis, Joseph John	*For.*	*Arlington, Mass.*
Evans, Carl Buntin	*E. E.*	*Concord*
Evans, Theodore Herbert	*A. G.*	*Wentworth*
Faber, David	*Pre-Med.*	*Nashua*
Fearer, Joseph Leonard	*M. E.*	*Hampton*
Felker, Walter Andrew	*Pre-Law*	*Laconia*
Fenton, Austen Wello	*A. G.*	*Andover*
Fish, Karl Edwin	*Agr.*	*Peterboro*
Fitzgerald, Richard A.	*A. G.*	*Manchester*
Fleischman, Bessie	*A. G.*	*Portsmouth*
Flower, Eugene Haskell	*A. G.*	*Manchester*
Follansbee, Geraldine Thomasia	*A. G.*	*Bristol*
Folsom, Edward Simeon	*E. E.*	*Dover*
Foster, Walter John	*A. G.*	*Suncook*
Fowler, Jewett Wilcox	*M. E.*	*Concord*
Fownes, Lois Alexander	*H. E.*	*Rochester*
Foz, George Herbert	*A. G.*	*Manchester*
Freaman, Sadie	*A. G.*	*Dover*
Freedman, Herbert Paul	*A. G.*	*Berlin*
Freeman, Charles Faulkner	*A. G.*	*Concord*
French, Stanley Gilbert	*A. G.*	*Exeter*
Fribance, William Bilson	*M. E.*	*Manchester*
Galeucia, Anna Joy	*A. G.*	*Alton*
Galloway, Raymond Prentiss	*Pre-Med.*	*Alstead*
Gardner, Frederick DeWitt	*A. G.*	*Portsmouth*
Gardner, Robert Hale	*I. E.*	*Nashua*
Gates, Elizabeth Aldina	*A. G.*	*Charlestown*
Gay, Anna Ellen	*A. G.*	*New London*
Gay, Richard Lewis	*Bus. Fund.*	*Keene*

Name	Course	P. O. Address
Geoffrion, Lucien Omer	*Arch.*	*Newmarket*
Geoffrion, Raymond Adrien	*E. E.*	*Newmarket*
Gibson, Frederick Thomas	*A. G.*	*Claremont*
Gile, Harold Raymond	*A. G.*	*Jackson*
Gilman, Lena Mae	*A. G.*	*Sugar Hill*
Girardin, Robert Ames	*Arch.*	*Peterboro*
Gleason, Eleanor	*A. G.*	*Dublin*
Gleason, John Ripley	*C. E.*	*Dublin*
Googins, Herbert Russell	*A. G.*	*Portsmouth*
Gordon, Florence Rosamond	*A. G.*	*Manchester*
Gordon, Herbert	*Bus. Fund.*	*Concord*
Gowen, Elizabeth	*A. G.*	*Greenland*
Granville, Pearle	*H. E.*	*Madison*
Greenwood, Earle Spencer	*Bus. Fund.*	*Goffstown*
Griffin, Eleanor Frances	*A. G.*	*Portsmouth*
Grigas, Anthony Peter	*Agr.*	*Nashua*
Grinnell, Victoria Louisa	*H. E.*	*Derry*
Hagerty, Edward Daniel	*Pre-Med.*	*Nashua*
Haggerty, Carlyle Wilson	*A. G.*	*Hampton*
Hagstrom, Herbert Roger	*A. G.*	*Worcester, Mass.*
Hale, Ruth Frances	*H. E.*	*Dover*
Halgren, Donald Atwood	*Ch. E.*	*Nashua*
Hall, Marjorie Louise	*A. G.*	*Dover*
Ham, Carlton Wilfred	*Agr.*	*Dover*
Ham, Roger Carerno	*Agr.*	*Durham*
Hammond, George Elroy	*C. E.*	*Manchester*
Hanley, Howard Eugene	*I. E.*	*Providence, R. I.*
Hanna, Charles Russell	*A. G.*	*West Swanzey*
Harris, James Campbell	*Agr.*	*Queens Village, N. Y.*
Haseltine, John Edward	*Bus. Fund.*	*Reeds Ferry*
Hasiotis, Arthur Christos	*Pre-Med.*	*Manchester*
Haskell, Genevieve Mary	*A. G.*	*Nashua*
Hayes, Charles Francis	*Pre-Med.*	*Rochester*
Hayes, Welna Marian	*A. G.*	*Center Strafford*
Hayward, Kenneth William	*M. E.*	*Hancock*
Hazeltine, John	*M. E.*	*Concord*
Hazen, Catharine Alice	*A. Ch.*	*Lebanon*
Hazen, Henry Allen	*Agr.*	*Lebanon*
Hazen, Walter Everett	*A. G.*	*Manchester*

Name	Course	P. O. Address
Head, Claris Elizabeth	*A. G.*	*Gorham*
Healy, Arthur Joseph	*A. G.*	*Manchester*
Heath, Wesley Knowlton	*M. E.*	*Franklin*
Henning, Avis Mary	*A. G.*	*Manchester*
Higgins, Paul William	*Ch. E.*	*Cranston, R. I.*
Hikel, Theodore Roosevelt	*M. E.*	*Plymouth*
Hill, Charles Hardy	*Bus. Fund.*	*Warner*
Hills, Dorothy Childs	*A. G.*	*Hollis*
Hill, Richard Oscar	*Ch. E.*	*Enfield*
Hinckley, Owen	*M. E.*	*Mamaroneck, N. Y.*
Hodgkins, Hollis Carter	*C. E.*	*Bartlett*
Holt, Harold Winston	*A. G.*	*Milford*
Holt, Marion Frances	*A. G.*	*Concord*
Horan, George Christopher	*C. E.*	*Manchester*
Horrigan, Frank Henry	*A. G.*	*Wakefield, Mass.*
Howard, Francis Joseph	*A. G.*	*Derry*
Hoyt, Stanley Currier	*I. E.*	*Plaistow*
Huckins, Claude Harold	*M. E.*	*Gossville*
Hynes, Edward Lawrence	*C. E.*	*Manchester*
Ingham, George Donald	*E. E.*	*Lowell, Mass.*
Jablonowski, Joseph Francis	*A. G.*	*Terryville, Conn.*
Jackson, Harley Wesley	*E. E.*	*Kennebunkport, Maine*
Jackson, Mildred Lois	*H. E.*	*Bethlehem*
Jacobs, Albert John	*Pre-Dental*	*Rochester*
Jacques, Eugene Leo	*M. E.*	*Ashland*
Jameson, Grace Estelle	*Phys. Ed.*	*Manchester*
Jenkins, Dorothy Geraldine	*H. E.*	*Reeds Ferry*
Jenkins, Walter Scott	*A. G.*	*Manchester*
Johnson, Hollis Russell	*A. G.*	*Hampton*
Johnson, Irving Ernest	*C. E.*	*Reeds Ferry*
Jones, Frank Malcolm	*E. E.*	*Manchester*
Jones, Viola Marguerite	*A. G.*	*Wolfeboro*
Kane, Edward Henry	*A. G.*	*Worcester, Mass.*
Kasian, George Jacob	*Bus. Fund.*	*Tilton*
Kelley, Genevieve May	*A. G.*	*Lincoln*
Kelley, Henry Edward	*A. G.*	*Manchester*
Kelley, Philip Henry	*M. E.*	*Berlin*
Kellstrand, Gunnas Edwin	*M. E.*	*Rockland, Mass.*
Kemp, Miriam Louise	*A. G.*	*Manchester*

Name	Course	P. O. Address
Kendall, Raymond Emerson	*A. G.*	*Newport*
Keyes, Joseph Victor	*Arch.*	*Manchester*
Kimball, Bernard Arthur	*Agr.*	*Contoocook*
Kimball, Ernest Robbins, Jr.	*A. G.*	*Franklin*
Kirkpatrick, Ilda Billings	*A. G.*	*Concord*
Knabenshue, Karl Emmons Hill	*A. G.*	*Manchester*
Knight, Ralph Lendall	*A. G.*	*Lebanon*
Krinsky, Abraham Eben	*Ch. E.*	*Somersworth*
Kydd, John Ure	*E. E.*	*Warren*
LaFarge, William Francis	*Bus. Fund.*	*Northwood Narrows*
Lamb, Wilfrid Thomas	*Ch. E.*	*Portsmouth*
Lambert, Alfred Anselm	*Pre-Med.*	*Marlboro*
Lamprey, Anna Signor	*A. G.*	*Manchester*
Lamson, Seth Albert	*A. G.*	*New London*
Lane, Frances Elohe	*A. G.*	*Errol*
Lane, Henry Chester	*A. G.*	*Keene*
Lane, Kenneth Bradley	*Agr.*	*Claremont*
Lang, Francis Edward	*A. G.*	*Somersworth*
Lang, Harry Frank	*A. G.*	*Colebrook*
Langlois, Fred	*A. G.*	*Lebanon*
Lawrence, Richard Wason	*Pre-Med.*	*Manchester*
Lazure, Albert Clarence	*C. E.*	*Berlin*
Leach, Chester	*M. E.*	*Moultonboro*
Leavitt, Dorothy Maude	*A. G.*	*Tilton*
Leggett, Martha Ruth	*H. E.*	*Thompsonville, Conn.*
Leggett, Norman Kempley	*E. E.*	*Manchester*
Lehtinen, Holger Gustav	*Bus. Fund.*	*West Concord*
Lemay, Louis Bertrand	*A. G.*	*Manchester*
Lepene, Lawrence O.	*A. G.*	*Farmington*
Lester, Bernice Howard	*A. G.*	*Ipswich, Mass.*
Levesque, Adrian Joseph	*Pre-Med.*	*Nashua*
Lewis, Allen Ingalls	*C. E.*	*Concord*
Littlefield, Nance Winslow	*A. G.*	*Hampstead*
Lloyd, Ronald Joseph	*Ch. E.*	*North Walpole*
Lockett, Marjory D.	*H. E.*	*Exeter*
Lord, Harry Donald	*Agr.*	*South Portland, Maine*
Lorden, Leonard Sloan	*A. G.*	*Milford*
Lovejoy, Maurice Millard	*M. E.*	*Conway*
Lovell, John Wallace	*A. G.*	*Lewiston, Maine*

Name	Course	P. O. Address
Lovell, Mary Virginia	*Phys. Ed.*	*Goffstown*
Lovering, Clement Woodward	*C. E.*	*New London*
Low, Waldron Garfield	*A. G.*	*Derry*
Lubchansky, William Robert	*Arch.*	*New London*
Lucy, Robert Anthony	*A. G.*	*Portsmouth*
Lynch, Edward Kenneth	*Bus. Fund.*	*Hanover*
Lynch, George William	*Pre-Med.*	*Nashua*
Lynch, Robert Emmett	*A. G.*	*Manchester*
McClain, Allan Merrill	*A. G.*	*Portsmouth*
McDonald, Donald Franklin	*E. E.*	*Manchester*
McLaren, Harry Spurr	*Arch.*	*Manchester*
MacGowan, Barbara Clark	*A. G.*	*Dover*
Mack, Donald William	*E. E.*	*Claremont*
MacNaught, Elizabeth	*H. E.*	*Rochester*
MacNeill, Stanley Allan	*A. G.*	*Manchester*
Magny, George Ernest	*A. G.*	*Lisbon*
Mahon, John Henry	*A. G.*	*Berlin*
Mailman, Eugene Whitman	*A. G.*	*Keene*
Mann, Guy Webster	*Agr.*	*Concord*
Marchand, Alphonse Joseph	*Arch.*	*Lebanon*
Marcotte, Kedrick James	*E. E.*	*Concord*
Marion, George Octave	*E. E.*	*Nashua*
Martel, James Brandon	*For.*	*Cascade*
Marston, John Benette	*A. G.*	*Manchester*
Martin, Frank Sawyer	*Bus. Fund.*	*Newport*
Marvin, Edward Sheafe	*A. G.*	*Portsmouth*
Mason, Alexander, Jr.	*A. G.*	*Winchester*
Matoian, Christopher George	*E. E.*	*Manchester*
Matsy, Arthur Matthews	*Ch. E.*	*Nashua*
Mavrogiannis, John George	*Pre-Med.*	*Manchester*
Menard, Alice Josephine	*A. G.*	*Manchester*
Menard, Yvette	*A. G.*	*Manchester*
Merrill, John Arthur	*C. E.*	*Storrs, Conn.*
Merrill, Ralph Way	*E. E.*	*Manchester*
Merrow, Charles Wingate	*E. E.*	*Center Ossipee*
Messenger, Stanley Thomson	*Pre-Med.*	*West Lebanon*
Michiels, George	*C. E.*	*Manchester*
Miller, Ralph M.	*A. Ch.*	*Townsend, Mass.*
Monahan, William David	*Pre-Med.*	*Lancaster*

Name	Course	P. O. Address
Moody, Arthur Franklin	*Pre-Law*	*Haverhill, Mass.*
Moore, Leonard Eugene	*E. E.*	*Durham*
Moore, Leroy Elbert	*M. E.*	*Salem*
Moorhouse, Clifton Davis	*A. G.*	*Tilton*
Morse, Bradley Farwell	*For.*	*Gorham*
Morse, Charles Augustus	*A. G.*	*Chester*
Morse, Victor Louis	*Ch. E.*	*Brattleboro, Vt.*
Mozes, Edward	*Pre-Med.*	*Manchester*
Mulford, John Allen	*Arch.*	*Westmoreland*
Murdoch, Robert Norman	*Bus. Fund.*	*Manchester*
Murphy, John Francis	*I. E.*	*Manchester*
Nardelli, Angelo	*C. E.*	*Providence, R. I.*
Neary, George Russell	*Bus. Fund.*	*Cohoes, N. Y.*
Nerbonne, Pauline Mary	*A. G.*	*Manchester*
Newell, Kenneth Field	*E. E.*	*Dover*
Nickerson, William Fisher	*Arch.*	*Exeter*
Nichols, Dorothy Ellen	*H. E.*	*Peterboro*
Nightingale, Elsie Thayer	*A. G.*	*Moosup, Conn.*
Nims, Harold Barrett	*Bus. Fund.*	*Keene*
Nixon, Dan Maynard	*A. Ch.*	*Rochester*
Ojanen, Richard Hendrick	*Ch. E.*	*Claremont*
O'Leary, John Timothy	*Arch.*	*Portsmouth*
Osgood, Raymond Hanson	*Arch.*	*Laconia*
Otis, Evelyn Natalie	*A. G.*	*Farmington*
Padden, Anna Virginia	*A. G.*	*Manchester*
Page, William Jamison	*C. E.*	*Berlin*
Parker, Alice Mary	*A. G.*	*Manchester*
Parkinson, John Anthony	*Bus. Fund.*	*Penacook*
Parkhurst, Donald Spofford	*E. E.*	*Peterboro*
Paul, Edith Rosetta	*A. G.*	*Sunapee*
Paul, Ruth Angell	*Phys. Ed.*	*Sunapee*
Pelletier, Paul Andrew	*Bus. Fund.*	*Tilton*
Pelletier, Paul Andrew	*Bus. Fund.*	*Tilton*
Perkins, Donald Merrill	*Bus. Fund.*	*Sunapee*
Perkins, Francis Eaton	*Pre-Med.*	*Littleton*
Perrault, Charles Eugene	*Pre-Med.*	*Manchester*
Peterson, Arthur Goodwin	*A. G.*	*North Conway*
Peterson, Stanley Samuel	*M. E.*	*Manchester*
Phelps, Marion Avis	*A. G.*	*Durham*

Name	Course	P. O. Address
Philbrook, Viola Beatrice	*A. G.*	*Meredith*
Phipps, Marion Louise	*A. G.*	*Dover*
Pillsbury, Louise Mabel	*A. G.*	*Derry*
Pinkham, Arthur George	*E. E.*	*Dover*
Pitman, Laura Maude	*A. G.*	*Center Barnstead*
Pitz, Donald	*Ch. E.*	*Durham*
Polisson, Paul Angel	*C. E.*	*Gloucester, Mass.*
Potts, Leslie Trueman	*M. E.*	*Durham*
Presby, Harold Freeman	*Agr.*	*Henniker*
Pridham, George Sherman	*A. G.*	*Portsmouth*
Prisk, Charles William	*C. E.*	*Yalesville, Conn.*
Proctor, Warren Douglas	*A. G.*	*Fremont*
Putnam, Harry Merrill	*C. E.*	*Rochester*
Qualey, Philip Paul	*Pre-Med.*	*Dover*
Quint, Levi Wilder	*Pre-Law*	*Conway*
Ramsay, Harold Spencer	*A. Ch.*	*Concord*
Rand, Elizabeth	*A. G.*	*Epping*
Rathbone, Dorothy Elizabeth	*A. G.*	*Exeter*
Raymond, Agnes Thurston	*A. G.*	*Errol*
Redden, Agnes Marie	*A. G.*	*Dover*
Reed, Paul J.	*A. G.*	*Manchester*
Regan, Helen Convy	*A. G.*	*Moultonville*
Reid, Orrien Kenneth	*E. E.*	*Gorham*
Remick, Philbert Ernest	*A. G.*	*Riverton*
Reynolds, Philip Lewis	*A. G.*	*Dover*
Richard, Wilbur John	*C. E.*	*Yalesville, Conn.*
Richardson, Stuart Ashley	*Bus. Fund.*	*Pelham*
Richer, Annette Georgette	*A. G.*	*Manchester*
Riley, Matthew Howard	*E. E.*	*Somersworth*
Riordan, George Patrick	*A. G.*	*Manchester*
Roalf, Phyllis Marion	*H. E.*	*Keene*
Roberts, Wade Hayson	*A. G.*	*Dover*
Robinson, Forrest Joy	*E. E.*	*Manchester*
Robinson, Francis Edwin	*A. G.*	*Durham*
Robinson, Harold Maxwell	*I. E.*	*Lowell, Mass.*
Ross, Karl G.	*Agr.*	*Gorham*
Rudd, Carol Corlies	*A. G.*	*Durham*
Ruiter, Gordon Cedric	*A. G.*	*Concord*
Rumery, Ruth Eleanor	*Arch.*	*Portland, Maine*

Name	Course	P. O. Address
Rumney, Jeanette Marion	*A. G.*	*Berlin*
Russell, Edward Holton	*A. G.*	*Manchester*
Russell, Harold	*For.*	*North Woodstock*
Russell, Leslie Grey	*A. G.*	*Hudson*
Rutledge, Kenneth Edward	*Ch. E.*	*Woodsville*
Ryder, A. Chandler	*Bus. Fund.*	*Dover*
Sabluski, Frank Charles	*A. G.*	*Nashua*
Saltmarsh, Donald Wariner	*A. G.*	*Concord*
Saltmarsh, William Rollins	*A. G.*	*Concord*
Sanborn, Harold Dennis	*A. G.*	*Hanover*
Sands, Simon Ray, Jr.	*A. G.*	*Portsmouth*
Sanel, Rose	*A. G.*	*Concord*
Sargent, Clayton David	*A. G.*	*Goffstown*
Sargent, Theodore Edward	*E. E.*	*Lebanon*
Savage, Kenneth Sinclair	*E. E.*	*Riverton*
Sawyer, John Raymond	*Pre-Law*	*Plymouth*
Sawyer, Lloyd Vincent	*Hort.*	*Woodstock*
Schurman, Joseph Leonard	*A. G.*	*Portsmouth*
Scruggs, Paul Wayland	*Bus. Fund.*	*Woodsville*
Seften, Eugene Henry	*Agr.*	*Bedford, Mass.*
Selleck, Francis Eugene	*A. Ch.*	*Exeter*
Serafini, Enzo D.	*A. G.*	*Hanover*
Shannon, Gertrude	*A. G.*	*Concord*
Shapiro, Mollie Mary	*A. G.*	*Portsmouth*
Shattuck, Granville	*A. G.*	*Granby, Conn.*
Shea, John Joseph	*A. G.*	*Manchester*
Sheldon, Harold Eugene	*Pre-Med.*	*Westmoreland*
Shepard, Harriet Eleanor	*A. G.*	*Bedford*
Silverstein, Max Morton	*A. G.*	*Dover*
Simpson, Robert Otho	*E. E.*	*Berlin*
Sinclair, Dorothea Winkler	*A. G.*	*Exeter*
Skoog, Allan Peter	*Ch. E.*	*Hampton*
Slack, Stanton McCue	*A. G.*	*Franklin*
Slaven, Ralph Emerson	*A. G.*	*Portsmouth*
Slavin, Robert Moran	*A. G.*	*Nashua*
Smith, Barbara Frances	*A. G.*	*Brookline*
Smith, Carleton Francis	*A. Ch.*	*Middletown, Conn.*
Smith, Carroll Philbrick	*A. G.*	*Goffstown*
Smith, George Wendell	*Bus. Fund.*	*Goffstown*

Name	Course	P. O. Address
Smith, Jean Esther	*A. G.*	*Lancaster*
Smith, Malcolm Walker	*A. G.*	*Mechanic Falls, Maine*
Smith, Robert Homer	*Agr.*	*Nashua*
Smith, Russell Clark	*Pre-Law*	*Whitefield*
Smith, Vera Maria	*A. G.*	*Meriden*
Smith, Vincent Frazier	*A. G.*	*Peterboro*
Solomon, Abe George	*A. G.*	*Franklin*
Solomon, Samuel Frank	*Bus. Fund.*	*Franklin*
Spence, Dorothy Adelaide	*A. G.*	*Berwick, Maine*
Spillane, Anna	*A. G.*	*Newmarket*
Spinney, Roger	*A. G.*	*Portsmouth*
Stankiewicz, Mitchell John	*Agr.*	*Newport*
St. Clair, Marion	*A. G.*	*Portsmouth*
Steere, Edith Ruth	*H. E.*	*Amesbury, Mass.*
Steeves, Ethel Elizabeth	*Phys. Ed.*	*Dover*
Sterling, William Clinton	*A. G.*	*New London*
Stevens, Dorothy Mary	*A. G.*	*Whitefield*
St. François, Robert Gerald	*H. E.*	*Nashua*
Stevens, Edith Margaret	*A. G.*	*Haverhill*
Stiles, Iva Leona	*H. E.*	*Center Strafford*
Strobridge, Edward Parks	*Bus. Fund.*	*Woodsville*
Sturgis, John Edgar	*Arch.*	*Durham*
Suck, Edmond Adolph	*A. G.*	*Hyde Park, Mass.*
Suisman, Joseph	*Bus. Fund.*	*New London, Conn.*
Sullivan, Genevieve Deasy	*A. G.*	*Manchester*
Sullivan, James Arnold	*E. E.*	*Somersworth*
Sullivan, Timothy Carroll	*Pre-Med.*	*Manchester*
Swain, Vernon Trickey	*E. E.*	*Barrington*
Swaine, Horace Robert	*A. G.*	*Rochester*
Szalajeski, Eugienia	*A. G.*	*Laconia*
Taggart, Richard Francis	*Arch.*	*Nashua*
Tallman, Earl Armstrong	*C. E.*	*Manchester*
Tardiff, George Peter	*E. E.*	*Berlin*
Tasker, George Waldermere	*For.*	*New London*
Thompson, Brownlow Leighton	*A. G.*	*Bristol*
Thorin, Gosta Rudolph	*E. E.*	*Dover*
Thurston, Elsie Estella	*A. G.*	*Wolfeboro*
Tibbetts, Marion Ellen	*A. G.*	*Groveton*
Tiffany, Henry Dyer	*C. E.*	*North Weare*

Name	Course	P. O. Address
Tilton, Richard Gould	*A. G.*	*Laconia*
Tobey, Ardra	*Phys. Ed.*	*Wolfeboro*
Toft, Sherman Ward	*A. G.*	*Exeter*
Tole, Henry John	*Ch. E.*	*North Walpole*
Tonkin, John Fremont	*Pre-Law*	*Durham*
Toothaker, Curtis C.	*I. E.*	*Rockland, Mass.*
Torgow, Joseph Bertram	*I. E.*	*Fall River, Mass.*
Tavers, James Herbert	*Pre-Law*	*Nashua*
Trent, George James	*Pre-Med.*	*Portsmouth*
Trombly, Lillian Oberlin	*A. G.*	*Concord*
Tucker, Robert Barclay	*Agr.*	*Middleboro, Mass.*
Tufts, Betty Raymond	*A. G.*	*Lancaster*
Tufts, George David	*A. G.*	*Manchester*
Turcotte, Leo George	*E. E.*	*Newmarket*
Turner, Orton Brown	*A. Ch.*	*Wentworth Location*
Tuttle, George Edward	*Agr.*	*Dover*
Uicker, John Joseph	*M. E.*	*Derry*
Van Stelten, Anna	*A. G.*	*Manchester*
Varnum, Richard James	*M. E.*	*Milford*
Vasilou, Vasilios Antoniou	*A. G.*	*Manchester*
Vaughan, Oscar Lockwood	*Arch.*	*Portsmouth*
Viele, James Harold	*Ch. E.*	*Claremont*
Vintinner, Frederick James	*Pre-Med.*	*Lisbon*
Vivian, Doris Haskell	*A. G.*	*Gloucester, Mass.*
Walden, George Richard	*E. E.*	*Portsmouth*
Walker, Agnew Geno	*Bus. Fund.*	*Lebanon*
Walker, Charles Monroe	*A. G.*	*Chelmsford, Mass.*
Walker, Edith Catharine	*A. G.*	*Contoocook*
Walker, Stanley Alvin	*A. G.*	*Woodsville*
Ward, Anna Letitia	*A. G.*	*Berlin*
Webb, Jackson Thomas	*A. G.*	*Milford*
Webster, Bessie	*A. G.*	*Durham*
Webster, John Randolph	*C. E.*	*Hartland, Vt.*
Weeks, Dorothy Eleanor	*H. E.*	*Pittsfield*
Weeks, John William	*A. Ch.*	*Greenland*
Wentworth, Andrew Rollins	*E. E.*	*Dover*
Weymouth, Charles William	*Ch. E.*	*Nashua*
Wheeler, Laura Allison	*Bus. Fund.*	*Manchester*
Whipple, Verna Alliene	*A. G.*	*Lebanon*

Name	Course	P. O. Address
Whitcher, Frank Earl	*E. E.*	*Bartlett*
Whitcomb, Edson Gerry, Jr.	*Ch. E.*	*Keene*
White, Waldron Carter	*Pre-Law*	*Peterboro*
Whiteley, William Milner	*A. G.*	*Dover*
Whittemore, Ruth	*A. G.*	*Lyme*
Whynott, Wallace Everett	*Pre-Med.*	*Antrim*
Wiggin, Bruce Eastman	*Ch. E.*	*Conway*
Wiggins, Clifford Roy	*Ch. E.*	*Montpelier, Vt.*
Wight, Edith Marion	*A. G.*	*Whitefield*
Willand, Allen Benjamin	*Bus. Fund.*	*Manchester*
Williams, Lona Grace	*A. G.*	*Keene*
Wilson, Beatrice Bethel	*A. G.*	*Concord*
Wilson, Robert Prescott	*A. G.*	*East Rochester*
Wilson, Rhoda May	*A. G.*	*Derry*
Winer, Pauline Elizabeth	*A. G.*	*Epping*
Wood, Kenneth Henry	*A. G.*	*Hanover*
Wood, Marjorie Virginia	*A. G.*	*Hampton*
Wooldridge, William Wallace	*M. E.*	*Laconia*
Woolley, Austin Gilbert	*C. E.*	*North Andover, Mass.*
Worthen, Eugene Porter	*M. E.*	*Manchester*
Wright, Marion	*A. G.*	*Alton*
Yerkes, Alice Ridley	*A. G.*	*Philadelphia, Pa.*
York, Rex Earl	*For.*	*Northumberland*
Young, Edna S.	*A. G.*	*Ossipee*
Young, William Carleton	*Pre-Law*	*Dover*

TWO-YEAR AGRICULTURAL MEN

First Year (12)

Name	P. O. Address
Bedaw, Jewel Peter	*Rye*
Brown, Charles Warren	*Hampton*
Bullock, Harold Newton	*Saxton's River, Vt.*
Chandler, Horace A.	*New Boston*
Gordon, Laurence W.	*Contoocook*
Ham, William Hennom	*Boscawen*
Martin, Henry George	*West Hopkinton*
Massingham, Arthur	*Durham*
Parkhurst, Roy George	*Colebrook*

Name	P. O. Address
Simmons, Walter Malcom	*Alstead*
Waters, Richard Charles	*Hampton*
Wood, John William	*Washington*

Second Year (6)

Bixby, Levi Mason	*Francestown*
Brown, Harland Lewis	*New Boston*
Champney, Theron Nelson	*East Jaffrey*
Comings, George Hanscom	*Durham*
Slayton, Carroll Leland	*Rochester, Vt.*
Whitaker, Albert Childs	*Mason*

SPECIAL STUDENTS (36)

Name	Course	P. O. Address
Beecher, Mystis Edith	*H. E.*	*Milford*
Beggs, Anna Farley	*H. E.*	*Durham*
Belknap, Lucy Mary	*H. E.*	*Lancaster*
Cox, George Everett	*Pre-Med.*	*Manchester*
Cullen, William	*Agr.*	*Washington, D. C.*
Daum, David	*L. A.*	*Dover*
DePew, Marjorie Alicie	*H. E.*	*Durham*
Dolan, Loretta Genevieve	*L. A.*	*Nashua*
Fairbanks, Dorothy May	*H. E.*	*Keene*
Gordon, Dorothy May	*H. E.*	*Alton*
Higgins, Leroy James	*L. A.*	*Littleton*
Hilliker, Edith Marion	*L. A.*	*Laconia*
Ingalls, Charles Leonard	*Agr.*	*Marlboro*
Kalijarvi, Dorothy	*L. A.*	*Durham*
Knight, Elizabeth	*H. E.*	*Conway*
Langley, Mary Clark	*L. A.*	*Durham*
Mahoney, James	*L. A.*	*Manchester*
Murlless, Martha Marguerite	*L. A.*	*Durham*
Nulsen, Dorothy	*L. A.*	*Durham*
O'Kane, Catherine Van de Water	*L. A.*	*Durham*
Parmenter, Miriam Frances	*H. E.*	*Keene*
Phillips, Genevieve K.	*L. A.*	*Durham*
Prescott, Dorothy Nutting	*L. A.*	*Plaistow*
Reed, Percy Floyd	*L. A.*	*Durham*
Russell, Marion	*L. A.*	*Jamaica Plain, Mass.*

Name	Course	P. O. Address
Russell, Ruth Tower	*H. E.*	
Sanborn, Mary Louise	*L. A.*	*Durham*
Sterling, Ruth Harriman	*L. A.*	*Dover*
Stewart, Arthur Porter	*L. A.*	*Hanover*
Tonkin, John Carter	*L. A.*	*Durham*
Washburn, Mary	*L. A.*	*Portsmouth*
Watson, Ruth Emma	*L. A.*	*Dover*
Wetmore, Frank H.	*L. A.*	*Salem, Mass.*
Williamson, Daisy Deane	*L. A.*	*Durham*
Woolley, Miriam Ryder	*L. A.*	*Exeter*
Pierce, Elizabeth Marsh	*H. E.*	*Milford*

SUMMER SESSION, 1927 (288)

Name	P. O. Address
Ackerman, Thelma Inez	*Franklin*
Adams, Stella Marion	*Hebron*
Africa, M. Isabel	*Manchester*
Agrafiotis, Chris John	*Manchester*
Allen, Kenneth T.	*Plainfield, Vt.*
Allen, Arabel	*Richmond, Maine*
Allen, Herbert Gerry	*Bethel, Vt.*
Allyn, Marjorie Elizabeth	*Montreal, P. Q.*
Amoroso, Paul	*Natick, Mass.*
Atkins, Reginald F.	*Concord*
Atwood, Marjorie Alice	*Pelham*
Aurebach, Eugene Kimball	*Arlington, Mass.*
Ayers, Wallis Haven	*Durham*
Bailey, Thomas Craig	*Hartford, Conn.*
Baker, Rachel F.	*Newmarket*
Baldi, Atilia	*Laconia*
Ballard, Edna Viola	*Penacook*
Barr, Dorothy Goodwin	*New Boston*
Barrows, William R.	*New Britain, Conn.*
Bartlett, Benjamin T., Jr.	*Derry Village*
Batchelder, Charles E.	*Portsmouth*
Batchelder, Ila Grace	*Manchester*
Beard, Hazel Maud	*Keene*
Beattie, Robert Archibald	*Woodsville*
Bissonett, Roland Lester	*Claremont*

Name	P. O. Address
Beloin, Harold Howard	*New Boston, Conn.*
Boodey, Cecil Webster	*Barrington*
Boodey, Dorothy M.	*Barrington*
Bourke, Katherine Ellen	*Brooklyn, N. Y.*
Branniff, Earl C.	*Northfield, Vt.*
Briggs, Mary Jane	*Caventry, R. I.*
Bubier, Madeleine	*Providence, R. I.*
Burgoss, Mary Louise	*Buffalo, N. Y.*
Burke, William M.	*Barre, Vt.*
Burlingame, Philip Russell	*Berlin*
Burr, Altana Ann	*Pawline, N. Y.*
Butler, John Joseph	*Somersworth*
Cameron, Eunice Audrey	*Franklin, Mass.*
Campbell, Marion Louise	*South Portland, Maine*
Carpenter, Edward S.	*Fair Haven, Vt.*
Carpenter, John T.	*Nashua*
Cavanaugh, Mary E.	*Dover*
Chandler, Roland Francis	*Durham*
Clancy, Marion Zilpha	*Portland, Maine*
Clarke, Ida Amelia	*Farmington*
Cleveland, James E.	*Whitefield*
Colby, Nathaniel H.	*New London*
Collins, Ralph Wallace	*Hampstead*
Comire, Irene A.	*Franklin*
Connor, Daniel J.	*Nashua*
Connor, Regina	*Newmarket*
Corliss, Hazel Viola	*Plymouth*
Corson, Hazel	*Rochester*
Craig, Anne Kirkwood	*Portsmouth*
Cummings, Edward S.	*Concord*
Cummings, Harry Blanchard	*Hanover*
Currier, Alton C.	*Orford*
Curtis, James E.	*Simsbury, Conn.*
Cutter, Ruth Mildred	*Concord*
Davis, Arthur	*Berlin*
Day, Marjorie Boynton	*Gorham, Maine*
Delaney, Katherine Mary	*Boston, Mass.*
Delehanty, Joseph N.	*Rutland, Vt.*
DePew, Heber F.	*Durham*

Name	P. O. Address
Diecy, Margaret V.	*Derry*
Dolan, Loretto G.	*Nashua*
Dolphin, Robert E.	*Marblehead, Mass.*
Donnelly, Mary C.	*Manchester*
Dowden, Elisabeth E.	*Washington, D. C.*
Douglas, Margery E.	*Winthrop, Mass.*
Dowling, B. Anna	*Bedford, N. Y.*
Downing, Dorothy	*Lincoln*
Dwyer, Edward M.	*Hanover*
Duffy, Peter A.	*Dover*
Eaton, Douglass	*Newburyport, Mass.*
Eldridge, Gertrude	*Cambridge, Mass.*
Elwood, Guilford Smith	*Derry*
Entwestle, Iris H.	*Manson, Mass.*
Erwin, Richard Henry	*Newington, Conn.*
Felch, Llewellyn M.	*Newmarket*
Fish, Joseph Theodore	*Kensington*
Fitch, Alice L.	*Claremont*
Flaherty, Edna G.	*Manchester*
Flanders, Clara Louise	*Durham*
Forbes, Ernest F.	*Dover*
Foster, Alice Page	*Melrose, Mass.*
Foster, Mildred M.	*Lisbon*
Fowler, Ralph L.	*Dover*
Fox, Richard Bowers	*Hanover*
French, Anne May	*Exeter*
French, C. W.	*South Deerfield*
Fryer, Francis L.	*Manchester*
Fuller, John McElroy	*Durham*
Fulwider, Whilma Mary	*Merrill, Wis.*
Funk, Edna K.	*Buffalo, N. Y.*
Garvey, Leo F.	*Dover*
Geremonty, Francis Howard	*Salem*
Geremonty, May Eckford	*Salem*
Gilbert, Arthur	*Somersworth*
Gordon, Dorothy May	*Woodfords, Maine*
Gorman, Maura Dorothy	*Thompsonville, Conn.*
Goss, Winifred L.	*Dover*
Gove, Ruth Alice	*Wentworth*

Name	P. O. Address
Grasse, Viola Mae	*Limestone, Maine*
Guptill, Alex L.	*Durham*
Gustafson, Walter Ludwig	*Portsmouth*
Hall, Herbert Lorenzo	*Plymouth*
Hammond, Mabel Irene	*Milford*
Hamp, Margaret Sidford	*Andover*
Hannaford, Glenn F.	*Cascade*
Hanson, Elizabeth Frances	*Concord*
Harriman, Carl E.	*Ashland*
Harris, Elsworth Frederick	*Franklin*
Harris, Gladys Ann	*Manchester*
Harrison, Helen Marie	*Brooklyn, N. Y.*
Herzig, Fred J.	*Cohain, Mass.*
Higgins, Mary Helena	*East Blackstone, Mass.*
Hildreth, Malcolm Dee	*Plymouth*
Hill, Florence	*Buffalo, N. Y.*
Hills, Clarissa	*Pelham*
Hills, Nellie Elizabeth	*Pelham*
Hoag, Albert B.	*Center Sandwich*
Hoben, Margaret E.	*Manchester*
Hoffmann, Edna G.	*Manchester*
Holbrook, George Edward	*Keene*
Holden, Lewis Edward	*Rochester*
Hooper, Ina Taylor	*Waterville, Maine*
Hof, Florence Theresa	*New York City*
Houghton, Clarence Winthrop	*Walpole*
Hounsell, William Booth	*Conway*
Houser, Joseph M.	*Canterbury*
Howe, Martha Whittier	*Portland, Maine*
Hoyt, Ethelyn Elizabeth	*Gorham, Maine*
Hunt, Henry	*Sanford, Maine*
Hunt, Mabelle	*Gray, Maine*
Huntoon, Grovenor Ariel	*Contoocook*
Huntoon, Isabelle Madeline	*Warner*
Jackson, John Alfred	*Durham, Conn.*
Jacobs, Josie Fidelia	*Rochester*
Jacobs, Mildred Francella	*Rochester*
James, Clifford Edward	*Malden, Mass.*
James, Henry Johnson	*Simsbury, Conn.*

Name	P. O. Address
Jenkins, Ruth Ellen	*Durham*
John, William L.	*Manchester*
Johnson, Elizabeth	*Lakeport*
Joslin, George E.	*Spofford*
Karner, Mary R.	*West Acton, Mass.*
Keenan, Grace Doris	*Bridgewater, Mass.*
Kendall, Helen Francis	*Winchendon, Mass.*
Kendall, Raymond Osgood	*Winchendon, Mass.*
Kepner, Charles David, Jr.	*Portsmouth*
Killeen, Elizabeth Catherine	*North Walpole*
Kimball, Merle Donald	*South Danville*
Kimball, Roy George	*Enfield*
Kinsman, Emma Lena	*Somersworth*
Kopp, Frank Edward	*Northampton, Mass.*
Kritter, Emilie A.	*Haverhill, Mass.*
Krook, William C.	*West Hartford, Conn.*
Larkin, Alice V.	*Portsmouth*
Learned, Theda Louise	*Woodsville*
LeMay, Eleanor Marion	*Manchester*
Lemieux, Florence Ann	*Berlin*
Levine, Rose M.	*Brooklyn, N. Y.*
Lewis, Frank H.	*Pelham*
Litchfield, Stephen, Jr.	*Brunswick, Maine*
Locke, Eva M.	*Rochester*
McCarty, Mary E.	*Dover*
McDade, Edna Louise	*Lawrence, Mass.*
McDade, Josephine Helen	*Lawrence, Mass.*
McDonough, Henry George	*New York City*
McIntosh, Sheldon	*Manchester*
Macphee, Donal Francis	*Springfield, Mass.*
Mack, Marion Alyce	*East Jaffrey*
Maclaren, Pauline Rosalind	*Concord*
Manchester, Bertha C.	*Piermont*
Marden, Harold Lyman	*Woodsville*
Mattoon, Donald Potter	*Colebrook*
Mayo, Elzear Francis	*Concord*
Mayo, Frank Xavier	*Manchester*
Melendy, Evelyn Alice	*Manchester*
Melville, Eva Hester	*Newmarket*

Name	P. O. Address
Melville, George Donald	*Newmarket*
Merriam, Julia Elizabeth	*Grand Rapids, Mich.*
Milbury, Herbert Leroy	*Manchester*
Moore, Howard Cross	*Malden, Mass.*
Merton, Paul Fillmore	*Portland, Maine*
Muchmore, Effie Louise	*North Woodstock*
Mulcoby, Edmund Justin	*North Walpole*
Munhall, Genevieve Elizabeth	*Antrim*
Murphy, Francis Raymond	*Lawrence, Mass.*
Murphy, Mildred Marie	*Bridgeport, Conn.*
Newcomb, Ernestine Lucinda	*Newport*
Normand, Alphonse F.	*Manchester*
Nudd, Madeline Webster	*Hampton*
Nyland, Ithamar	*West Hartford, Conn.*
O'Kane, Catherine V.	*Durham*
Palmer, Alice Williams	*Boston, Mass.*
Parker, Helen Louise	*Penacook*
Parkinson, Everton Harry	*Salem*
Patterson, Bessie M.	*Rutledge, Pa.*
Paul, Katherine Libby	*Wakefield*
Perry, Robert Folsom	*Charlestown*
Peters, Marion Bashford	*Providence, R. I.*
Peterson, Alfred Wolcott	*Manchester*
Philbrick, Earle Dexter	*Berlin*
Philbrook, Ernest Wilfred	*Conway*
Phillips, Agnes Anne	*Brooklyn, N. Y.*
Phipps, Marion Louise	*Dover*
Pitts, Thomas	*Concord*
Pitz, Arthur	*Durham*
Pitz, Donald	*Durham*
Pollard, Mary I.	*Dover*
Pray, Charles, Jr.	*Hempstead*
Prescott, Dorothy Nutting	*Plaistow*
Prickett, Cavett O.	*Manchester*
Pritchard, Charles G.	*Manchester*
Proctor, Fred Grant, Jr.	*Portsmouth*
Proctor, Harold Hastings	*Antrim*
Quick, John Randolph	*Beach Bluff, Mass.*
Rayne, Clariss T.	*Lawrence, Mass.*

Name	P. O. Address
Reed, Roger A.	*Woodsville*
Richards, Thomas William	*Hempstead, N. Y.*
Richardson, Josephine G.	*Boston, Mass.*
Ricker, Carolyn Hyde	*Somersworth*
Ring, Raymond McClary	*Epsom*
Roberts, Verne Edward	*Henniker*
Roberts, Wade Hayson	*Dover*
Robinson, William Evans	*Newmarket*
Rollins, Gladys Louise	*Pike*
Romani, Olympia	*Milford*
Rundlett, Dorothy Frances	*Exeter*
Russell, Herbert Edwin	*Suffield, Conn.*
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Simon, Moses I.	*Salem, Mass.*
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Smith, Dorothy Clara	*Lincoln*
Smith, Florence May	*Portland, Maine*
Smith, Joseph Harold	*Andover, Mass.*
Smith, Nancy Hooper	*Waterville, Maine*
Smith, Robert Elbridge	*Franklin*
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Stewart, Pauline Frances	*Portsmouth*
Stickney, Noyes Coburn	*Keene*
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Streeter, Lewis J.	*Wilton*
Sullivan, Mary Louise	*Concord*
Summerville, George Herbert	*Manchester*
Sutherland, Muriel Louise	*Amesbury, Mass.*

Name	P. O. Address
Sylvester, Rovena Mae	*Chelsea, Mass.*
Taggart, Elizabeth	*Manchester*
Teague, Lucy O.	*Warren, Maine*
Terrill, Roy Leslie	*Lakeport*
Terry, Joseph Church	*Fall River, Mass.*
Thompson, Dorothy M.	*East Rochester*
Thompson, Elmer John	*Warner*
Thompson, Elizabeth S.	*Bingham, Maine*
Thurston, Francis Chandler	*Somersworth*
Tolman, Rodger Milton	*Rochester*
Towle, Edward Chester	*Pittsfield*
Varney, Elizabeth Adams	*Somersworth*
Vennard, Harold Dame	*Lynn, Mass.*
Ward, Edward Hugh	*Wakefield, Mass.*
Warren, Arlin Brown	*Manchester*
Watson, Ruth Emma	*Dover*
Webster, Robert Gordon	*Newburyport, Mass.*
Wellman, Blanch Walker	*Durham*
Weston, Ralph Frank	*Tilton*
White, Irene Elizabeth	*Plymouth*
White, Tom C.	*Plymouth*
Whiteley, Annie Elizabeth	*Dover*
Whitney, Bessie Pauline	*Antrim*
Wiggin, Arnold Thomas	*Portsmouth*
Wight, Villa E. H.	*Boscawen*
Willard, Dorothy	*Berlin*
Winch, Stanley Gordon	*Sanford, Maine*
Wright, Murray Johnson	*Alton*
Young, Winfield John	*Newport, Vt.*

UNIVERSITY OF NEW HAMPSHIRE, OFFICE OF THE REGISTRAR

SUMMARY OF REGISTRATION, 1926–1927

Regular Courses	Agriculture									Liberal Arts										Technology										
											H.E.																				
	Gen.	T. T.	P. H.	A. H.	D. H.	For.	Hort.	Agr. Ch.	Total	Gen.	T. T.	Inst.	Arts Chem.	Bus. Fund.	Pre-Med.	Pre-Arch.	Pre-Law	P. E. for Women	Total	Gen.	Ind. T. T.	Ind.	Chem.	Arch.	E. E.	M. E.	Civil E.	Total	Men	Women	Total
Seniors	8	1	4	..	1	2	5	3	24	154	5	6	....	....	1	....	....	....	166	..	....	10	7	8	22	5	..	52	171	71	242
Juniors	6	..	4	3	1	7	5	1	26	172	1	2	3	18	9	....	....	1	206	..	....	13	9	7	22	8	..	59	193	98	291
Sophomores	10	4	4	3	1	11	1	2	36	193	..	1	3	36	15	....	1	1	250	1	....	9	14	18	28	6	13	89	291	84	375
Freshmen	16	1	..	..	..	9	..	..	26	303	..	..	6	32	27	3	12	6	389	22	....	4	15	13	37	18	6	115	372	158	530
Graduates	3	..	..	..	..	..	..	..	3	18	..	..	....	....	....	....	....	....	18	5	....	..	..	..	..	..	..	5	18	8	26
Special	5	..	..	..	..	..	..	..	5	21	..	..	....	....	....	....	....	....	21	1	....	..	..	..	..	..	..	1	8	19	27
Total 4-yr. students	48	6	11	6	3	29	11	6	120	861	6	9	12	86	52	3	13	8	1,050	29	....	36	45	46	109	37	19	321	1,053	438	1,491
Short Courses																															
2d-yr. two-year	13	..	..	..	..	..	..	..	13	.....	..	..	....	....	....	....	....	....	.....	..	....	..	..	..	..	..	..	...	13	...	13
1st yr. two-year	9	..	..	..	..	..	..	..	9	.....	..	..	....	....	....	....	....	....	.....	..	....	..	..	..	..	..	..	...	9	...	9
Summer School	..	..	..	..	..	..	..	..	...	262	..	..	....	....	....	....	....	....	262	..	....	..	..	..	..	..	..	...	139	123	262
Total short courses	22	..	..	..	..	..	..	..	22	262	..	..	....	....	....	....	....	....	262	..	....	..	..	..	..	..	..	...	161	123	284
Grand total	70	6	11	6	3	29	11	6	142	1,123	6	9	12	86	52	3	13	8	1,312	29	....	36	45	46	109	37	19	321	1,214	561	1,775
Less duplicates	..	..	..	..	..	..	..	..	...	95	..	..	....	....	....	....	....	....	95	..	....	..	..	..	..	..	..	...	60	35	95
Total	70	6	11	6	3	29	11	6	142	1,028	6	9	12	86	52	3	13	8	1,217	29	....	36	45	46	109	37	19	321	1,154	536	1,680
Extension	..	..	..	..	..	..	..	..	...	.....	..	..	....	....	....	....	....	....	.....	..	....	..	..	..	..	..	..	...	5	15	20

UNIVERSITY OF NEW HAMPSHIRE ALUMNI ASSOCIATION

The Alumni Association expects all two- and four-year graduates to become active members, and all former students to become associate members of the Alumni Association. The dues, together with subscription to the *Alumnus*, are $2.00 per year, payable in advance.

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Vice-Pres. Henry B. Caswell, '19, 15 University Terrace, Burlington, Vt.
Sec.-Treas. Mrs. Helen M. Graham, '20, Northfield, Vt.

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Vice-Pres. Guy Johnson, '16, Winchester, N. H.
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Sec.-Treas. Harold S. Brown, '16, 6958 Normal Blvd., Chicago, Ill.

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